State of Montana

Biennial Report for

Information Technology

2007

This is the third Biennial Information Technology Report prepared under the authority of the Montana Information Technology Act of 2001.

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Foreword

The Montana Information Technology Act (MITA) requires that the Department of Administration (DOA) prepare a report each biennium that assesses the state's progress in achieving the goals and initiatives outlined in the state's Information Technology Strategic Plan. MITA also requires that the report contain an analysis of the state's information technology (IT) infrastructure including its value, condition, capacity; an inventory of IT equipment, software and services; and an evaluation of IT performance. This document is the third biennial IT report and measures our progress against the state's second IT strategic plan which was developed in the spring of 2004.

The focus of the Biennial Report is the executive branch. The legislative branch, judicial branch, and university system are generally excluded since MITA was not designed to cover those organizations.

The background material for this report originated from several primary sources:

- Expenditure and budget data from the Office of Budget and Program Services and the System Audit Statewide Accounting, Budgeting and Human Resource System (SABHRS).
- Agency IT plans.
- Project data assembled by the Information Technology Service Division's (ITSD) Project Management Office.
- ITSD web survey application. Agency staff used this application to log information on their servers, applications, and progress against their strategic plans.

The Biennial Report is a summary of dozens of detailed reports, spreadsheets, analysis documents, SABHRS queries, and independent research. The detailed material can be found in the appendices, but the appendices are not published in hardcopy due to their length. Appendices are available in hardcopy by request and through the web at:
http://itsd.mt.gov/techmt/biennialreport.asp

If you have any questions regarding the data reported here, or the use of information technology within the State of Montana, please contact the Information Technology Services Division of the Department of Administration.

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Progress on the State Strategic Plan for Information Technology 2004

ITSD adopted the use of Enterprise Risk Management (ERM) and Control Objectives for Information and Related Technologies (COBIT) to formalize risk management and provide control objectives for IT. This is one use of deploying ***Enterprise Architecture*** (EA) as a tool for managing change in an organization. In 2006 the CIO implemented the state of Montana Information Technology Resource Planning and Development Cycle. The purpose was to define a coordinated and integrated approach to manage the development of information technology resources needed to support the strategic missions of the state of Montana.

There has been significant growth in the use of ***e-government*** applications over the last two years. With 14,252 registered users; transactions were up from 1,788,768 in FY05 to 1,998,093 in FY06, representing an increase of 11.7 percent. We expect to see continued growth in this area since 57.1 percent of Montana households have computers and 62.8 percent of all Montanans use the Internet.

We continue to make progress on the ***Implementation of Best Practices***. There has been increased utilization of qualified project managers and the use of independent verification and validation processes on major projects. Major IT projects are aligned with the agencies' IT Plans which are aligned to the state's IT Strategic Plan. All major projects are reviewed as part of the IT Strategic Plan approval process and the Executive Planning Process review. The Policy and Planning Services Bureau has established a project management office and maintains an ongoing inventory of the state's IT infrastructure.

The IT Policy Process was developed as the primary policy and standard development process, and provides for the development, review, publishing, and implementation of statewide and ITSD IT policies, standards and supporting processes. These processes will also provide for the development and implementation of procedures, guidelines, and white papers. This will improve the ***business process management*** within ITSD. Since the project's inception, several policies, standards and procedures have been developed and work is in progress to address enterprise IT planning, project management and procurement via policy.

Workforce development continues to be a challenge within the IT arena. As a whole, the state of Montana is below industry standards on the number of IT staff as a ratio to total employees supported by IT. Additionally, many key IT positions remain unfilled due to hiring difficulties directly related to the prevailing wage the state pays for IT professionals. As a result of the low wages relevant to the prevailing market rate, the agencies are often left with a small pool of less qualified applicants. This severity of this situation is expected to increase as the aging state employee population moves to retirement.

Public Safety Communications continues to expand and improve within the state of Montana. Montana has 57 Public Safety Answering Points (PSAP's), all of which provide basic 9-1-1 service. Wire and wireless **Enhanced 9-1-1 (E9-1-1***)* service enables law enforcement and public safety agencies to respond quicker by providing the dispatcher with critical location information for a caller on a wireless phone. There are 28 PSAP's that provide E9-1-1 service and 20 more that have agreed to provide E 9-1-1 services. Primary E9-1-1 service is provided by Century Tel. A few large PSAP's at urban centers also use Qwest. The statewide E9-1-1 service allows Public Safety Answering Points (PSAP's) to acquire the hardware and DBMS/ALI database functionality as a service and pay for these services on a recurring monthly basis versus purchasing and maintaining the system themselves.

The concept of a connected and compatible statewide ***Public Safety Land Mobile Radio System*** (LMR) in Montana has been discussed and studied for over 20 years. Local public safety systems were built on a local needs basis, often with no coordination with other response groups in regional areas. Following the events of 9-11, there was an intense focus on homeland security and the inability of agencies to communicate effectively with each other during an emergency. In 2004 Lewis and Clark County initiated a project to upgrade their voice radio system to a combined trunked/conventional P25 Motorola system. The statewide Interoperability Executive Council (SIEC) adopted Project 25 digital standard as the underlying technology architecture to ensure interoperable communication. All state of Montana agencies using digital voice communications are required to conform to the P25 standard. The Disaster and Emergency Services (DES) division, the administrator for Homeland Security funding, now require the P25 standard for state and local purchases.

The Northern Tier Interoperability Consortium (NTIC) was born from law enforcement concerns regarding the lack of communication interoperability along the Canadian Border. The NTIC was organized in 2004, involving 12 counties and 4 tribal nations. In 2005, the NTIC voted to follow the Lewis and Clark Model for their system. DES provided approximately $7.5 million of homeland security funding to initiate the project and the 2005 Montana Legislature allocated $3.5 million to the NTIC project.

ITSD, DES, and eight consortia have proposed expansion of the Lewis and Clark County design to a statewide approach by forming the Interoperability Montana Project (IM.) The Interoperability Montana Project has identified the expansion of the trunked radio system and digital microwave system as an expansion of the Lewis and Clark and the Northern Tier Projects. The phase one expansion will involve the improvement and development of up to seventeen sites in 2007, with additional sites to be added depending on funding. Several state agencies, including the Montana Highway Patrol and Department of Livestock, plan to utilize the Interoperability Montana system immediately. A number of other state agencies are examining the extent they will support and utilize the IM system as it deploys.

Progress on Agency Information Technology Plans

Each state agency developed a specific agency IT plan in the spring of 2004 for the subsequent six years, focusing on the next biennium. All 31 agencies in the executive branch submitted plans. Each of these agency plans contained detailed goals and supporting objectives for IT as well as descriptions of any significant IT initiatives the agency was undertaking. In all, they proposed 161 separate goals, supported by 510 specific objectives. Agencies were asked to report their progress in meeting these objectives on the following scale: *Completed, Currently ongoing as planned, Currently ongoing but behind schedule* and *Not started*. Agencies reported that more than 75 percent of all objectives have either been accomplished or are on schedule. The remaining objectives are equally divided between those simply below expectations and those that for various reasons were not started at all (often due to lack of funds, change in agency focus, or federal changes).

Agencies were also asked to report on how well they are doing on major IT initiatives (typically spends in excess of $300,000 or more than 25 percent of their IT budget.) There were 94 such initiatives planned in 2004. Of these nearly 80 percent are completed or on schedule. Only 6 percent are below expectations and 15 percent were never started.

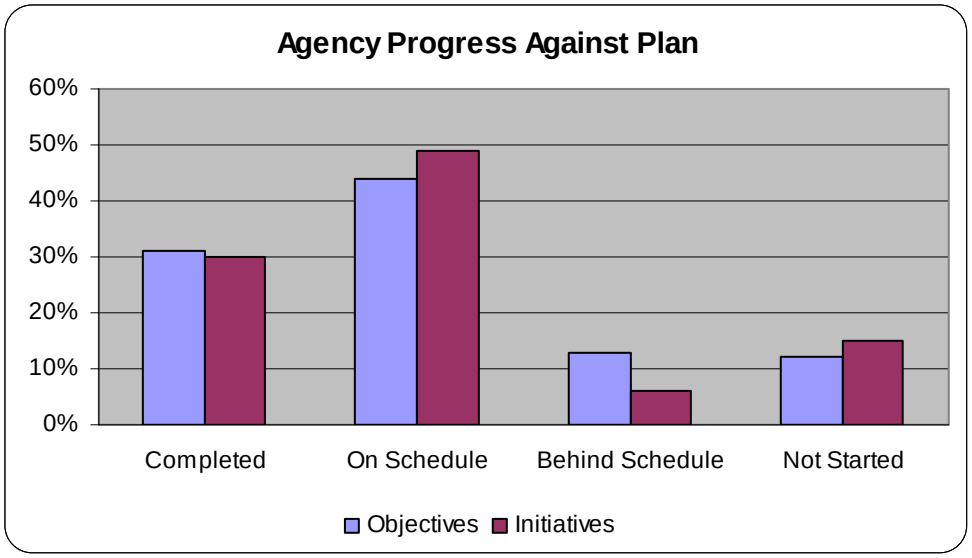


Figure 1 illustrates progress agencies made against their IT Plans.

MITA Audit and Response

In October 2005 the Enterprise IT Management Audit Report (LAD #05DP-06) was published with four findings relative to DOA's implementation of the Montana Information Technology Act (MITA). The report required DOA to do the following:

1. Commit to and execute the centralized management and control of IT required by MITA.

2. Develop and document implementation plans addressing each section of MITA.

3. A. Establish and document the process of using policies to ensure DOA and state agencies comply with MITA.
   B. Establish and document procedures to maintain enterprise IT policies and standards.

4. Coordinate with the Office of Budget and Program Planning to enforce the statutory requirement that new IT investments be included in the governor's budget only if the project is included in the approved agency information technology plan.

The CIO Policy Project and dedicated policy team was established in response to the audit findings 2 and 3. The project advances this goal through the development and implementation of statewide IT policies and standards.

The IT Policy Process was developed as the primary policy and standard development process, and provides for the development, review, publishing, and implementation of statewide and ITSD IT policies. Standards and supporting processes will provide for the development and implementation of procedures, guidelines and white papers.

Key practices in the development of policies and standards is the use of Enterprise Risk Management (ERM) and Control Objectives for Information and Related Technologies (COBIT) to formalize risk management and provide control objectives for IT.

The policy team is currently developing three primary policies on IT procurement, IT planning, and IT project management. Ten documents consisting of policies, standards, and strategy white papers have been published. An additional 11 policies/standards and 5 strategy white papers are also under development.

Finding 4 is being addressed through the Office of Budget and Program Planning and DOA/ITSD coordinated efforts on reviewing and evaluating major IT projects. They issued a joint survey on IT EPP requests in August 2006, and all major IT project requests that DOA/ITSD receives are being distributed to OBPP. This includes all agency proposals for data center expansions. In addition, this Biennial Report contains a section on major IT projects that includes information on all IT projects regardless of their source of funding. DOA/ITSD requires agencies to update their agency IT plans before approving major new IT projects.

The Enterprise IT Management Audit Report (LAD #05DP-06) and DOA response can be found at http://leg.mt.gov/css/audit/audit_reports_year.asp

Status of the Information Technology Infrastructure
The Information Technology Service Division maintains a web based application that allows agencies to input data relative to the current status of their IT inventory. Agencies are required to maintain current information in the database, making entries as changes occur, and performing annual updates as requested by ITSD. The following section of this report reflects an analysis of that data as reported by the agencies. More detailed information can be located in Appendix A online at http://itsd.mt.gov/techmt/2007biennialappend.asp

Data Centers

There are 293 sites housing 934 physical servers, which store and run the state's software applications. Due to their critical nature, data centers are typically designed to have special environmental protections in place. The typical protections include:

- HVAC (heating, ventilation, air-conditioning)
- Fire suppression systems
- Conditioned power source to eliminate voltage drops and peaks
- Battery backup for power during temporary outages
- Local/controlled access
- Generators for alternate power source over extended periods

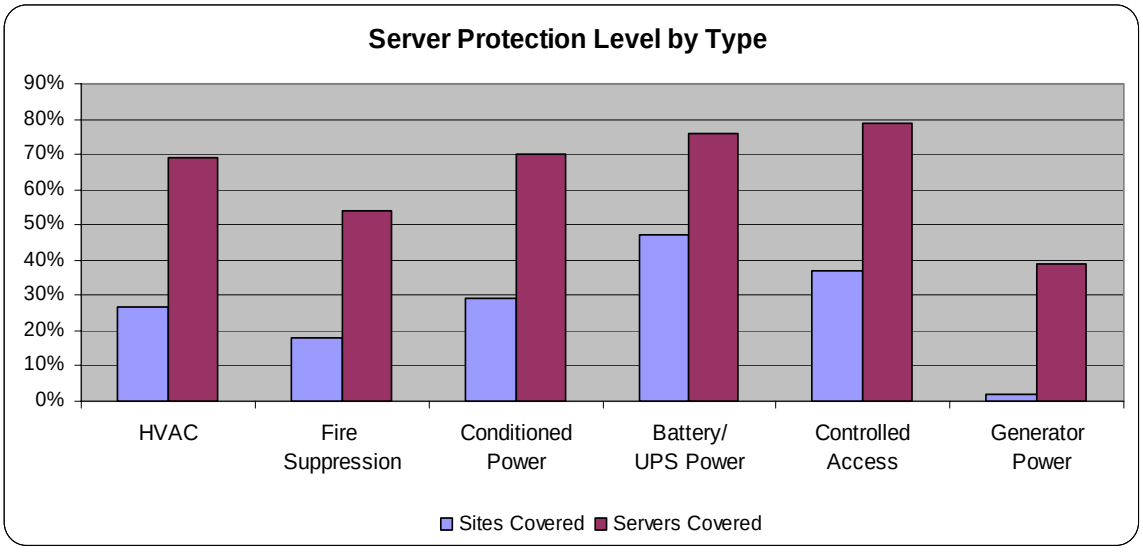


Figure 2 illustrates the percentage of servers and sites covered by the typical protective systems.

There appears to be great disparity among the levels of protection installed for the state's data centers. The larger data centers typically have most of the standard protective systems listed above; however, many of the smaller data centers have few or none of the critical protective systems in place.

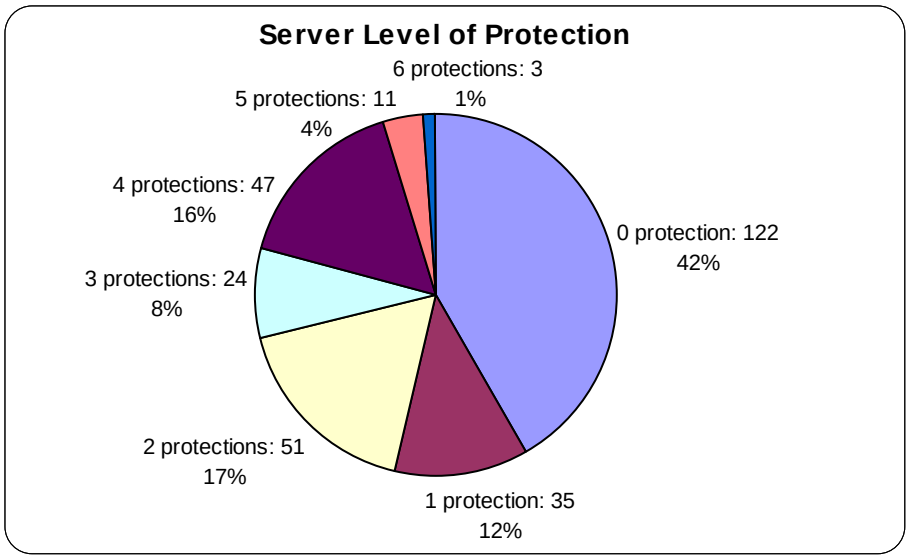


Figure 3 illustrates the level of protection for state servers.

While only three sites *(the ITSD data center in the Mitchell Building, DOJ at Fort Harrison, and MDT)* have all six levels of protection, 295 or 32 percent of the state's servers are located at those three locations. There are 601 or 64 percent of the state's servers located in sites with four or more protections. A total of 157 or 17 percent of servers are in isolated locations that have one or no protection.

Servers

By definition, a server is a multi-user computer that provides a specific type of service to client software running on other computers – usually PCs. For our purpose, the term server refers to a physical or virtual computer on which server software is running. A single server may have many applications running on it; therefore, the server may provide many different services to many different users on the network. Servers in this report include everything from a large mainframe down through mid-tier size servers and include large desktop computers if they are operating as servers.

The state has 934 servers in operation housing more than 1076 physical or virtual servers. With appropriate software, dozens of virtual servers may reside on a single physical server. ITSD, DOJ, and STF use this technique to reduce the number of physical servers, simplify management, and minimize software-licensing cost.

There are 50 servers dedicated to running Storage Area Networks (SANs) for the purpose of backing up and storing large amounts of critical data. There are 10 agencies that are currently employing SANs: COR, DEQ, DLI, FWP, LEG, MDT, MSL, OPI, SOS, and STF.

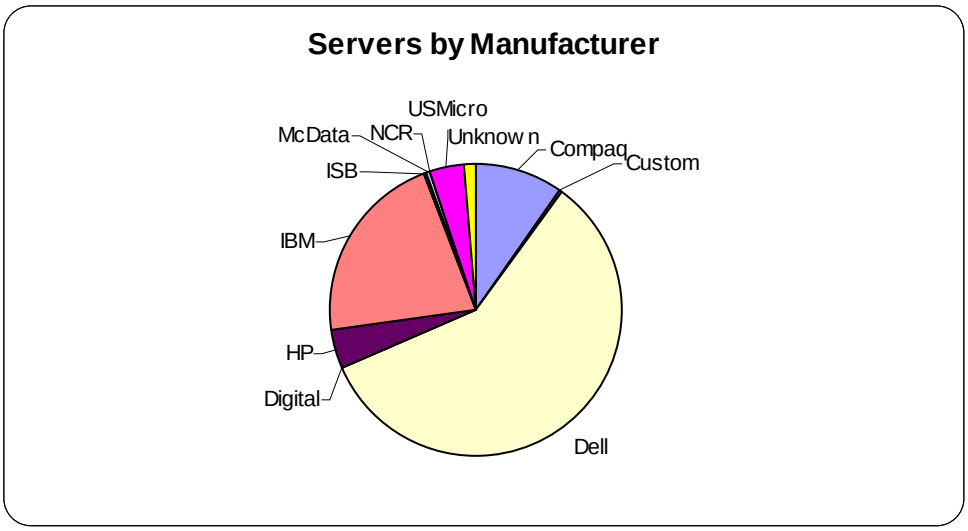


Figure 4 illustrates servers by manufacturer.

Dell and IBM make up the largest portion of the state's servers, about 80 percent. With the merger of Compaq and Hewlett-Packard (HP) almost 14 percent of the state's servers are supported by HP.

Operating Systems

The operating system controls the other application software running on the server. Presently, Windows is the predominant server operating system within the enterprise landscape. There are fourteen separate operating systems currently in use throughout the state. This diversity contributes to the complexity associated with providing support and planning future growth strategies, while maintaining the enterprise infrastructure.

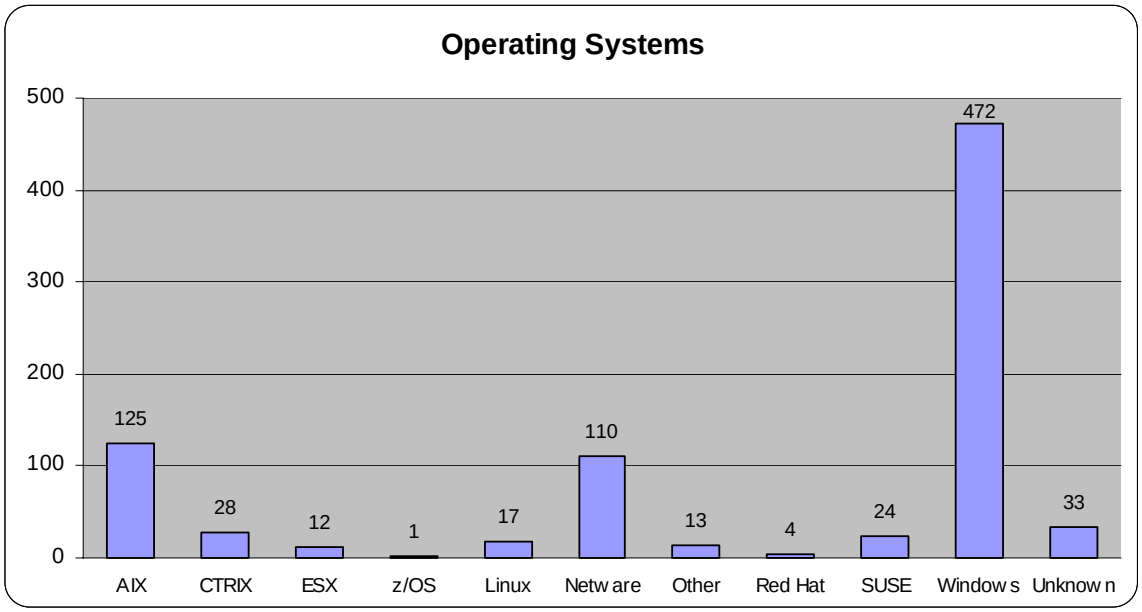


Figure 5 illustrates the server operating system by type.

Age

Of the 934 servers identified within the survey, 79 percent are four years old or newer. Most hardware vendors commit to five years of parts availability for servers; therefore, five years is the reasonable upper limit for the life of a deployed server.

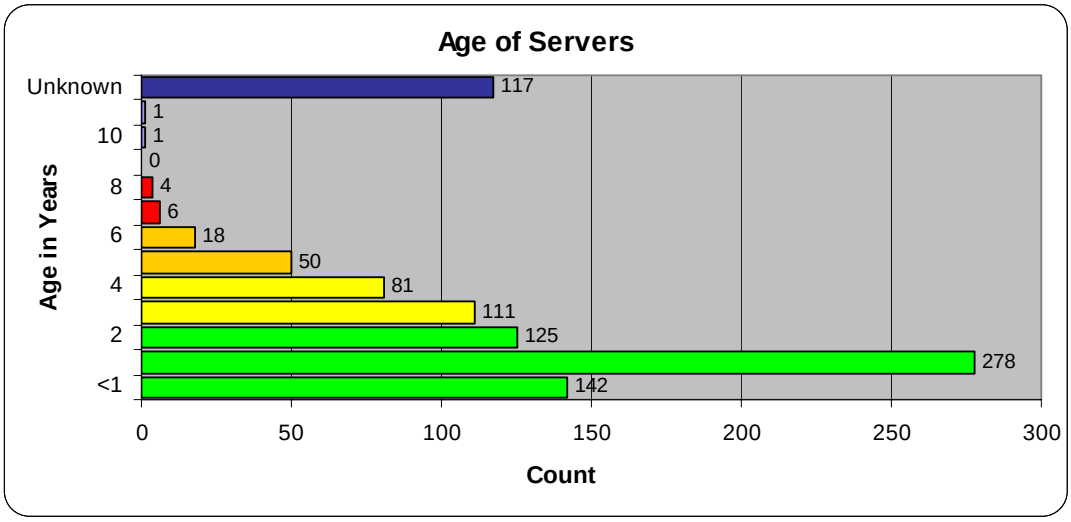


Figure 6 illustrates the age distribution of servers identified within the agency.

Applications

Software applications are used to carry out a wide variety of functions performed by agencies within state government. These functions support internal, state-related business processes as well as external, public-related business transactions. The survey data does not reflect single-user applications.

Our applications are divided into three major categories; **commercially** available and procured, **custom** built, or a **database** (data storage) application. Only 16 percent of the applications used by the state of Montana are commercially available products. Approximately 43 percent are custom built to meet the unique needs of the state, or because a commercial application was not available.

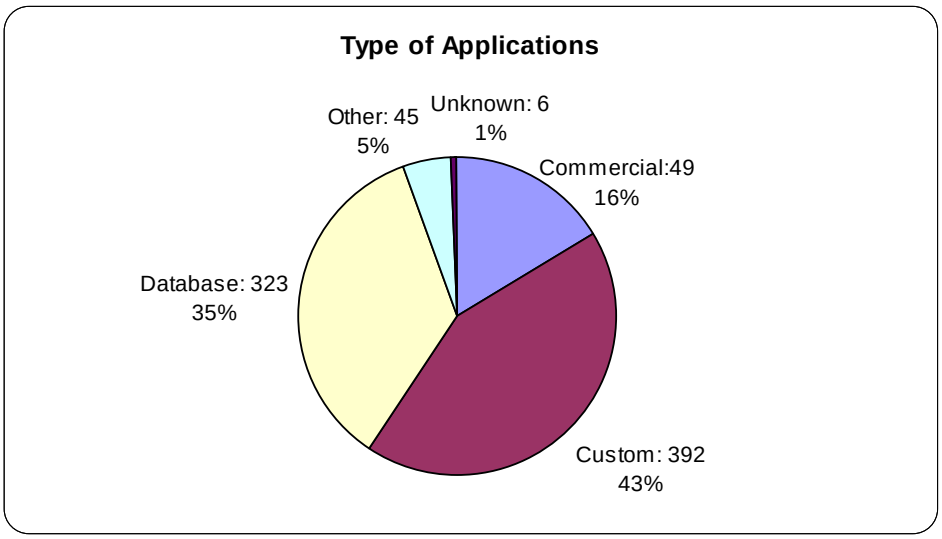


Figure 7 illustrates the breakdown of the state's major applications by type.

Applications were rated by the agencies to determine their relative age, ranging from new to obsolete for current purposes. A total of 107 applications are currently classified as "declining" in age or obsolete, 62 of which are custom applications that will need to be upgraded or replaced in the near to immediate future.

Software lifecycle is predicated on the type of software and hardware platform being used. Any one of the following factors may require the replacement or updating of software: hardware equipment changes, operating system changes, user needs, manufacture updates and termination of support for older versions. At a minimum, operating system software upgrades should be timed to coincide with normal hardware replacement or when application/middleware is undergoing a major upgrade.

Agencies will need to address lifecycle management of their software applications in their agency IT plans.

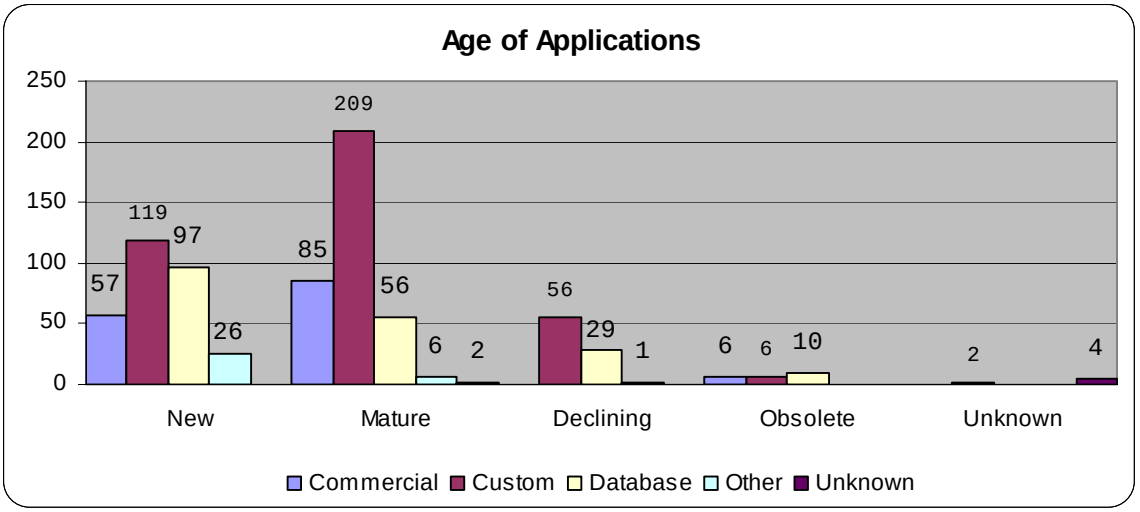


Figure 8 illustrates applications by type and by age.

Applications were also rated for their level of criticality to the continued operation of state businesses. The agencies were asked to indicate whether the application has a disaster recovery plan in place. Nearly 78 percent of all applications do **not** have a disaster recovery plan, 240 of which are highly critical to state operations.

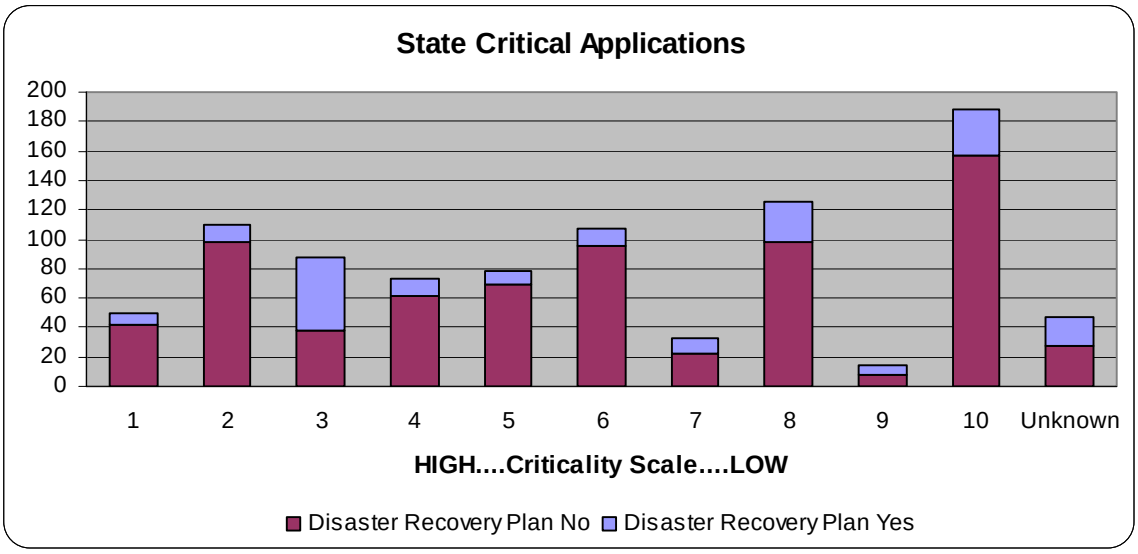


Figure 9 illustrates applications critical to state operations with an indication of the status of their recovery plan.

The applications were also rated for their level of criticality to the continued operation of the agency business. A scale of high, medium, or low was used. Approximately 68 percent of the applications rated as critical to agency operation do **not** have a disaster recovery plan.

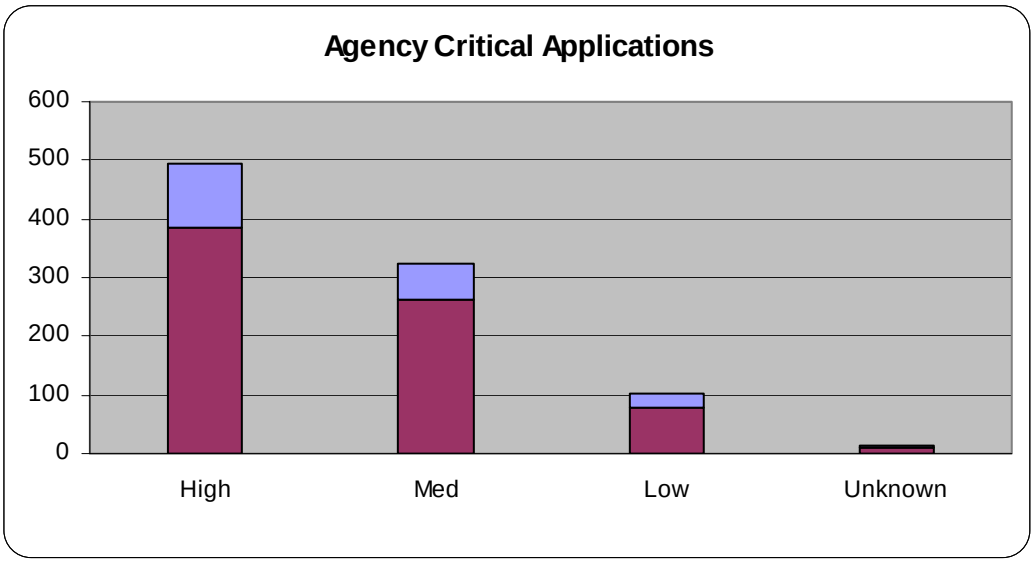


Figure 10 illustrates the agency rating, along with the status of the disaster recover plan.

Desktop Computers

Montana currently has 13,670 personal computers in service, with 2005 or 14.6 percent of those being laptop computers, and the remainder being desktop computers. There has been a 3 percent increase in the number of personal computers from 2004 to 2006. The state's PC-standard is based on IBM and IBM-compatible equipment and selected software. The state has a term contract with IBM, Dell, and HP for PC acquisitions. While there has only been a moderate growth in the number of PCs, the number of laptops is increasing while the overall number of desktop PC's remained level during 2005 and 2006.

The state's policy for PC replacement is once every four years, which is consistent with industry and government practices. The actual PC replacement rate for fiscal year 05 and fiscal year 06 averaged 19 percent for desktop computers and 17.5 percent for laptop computers.

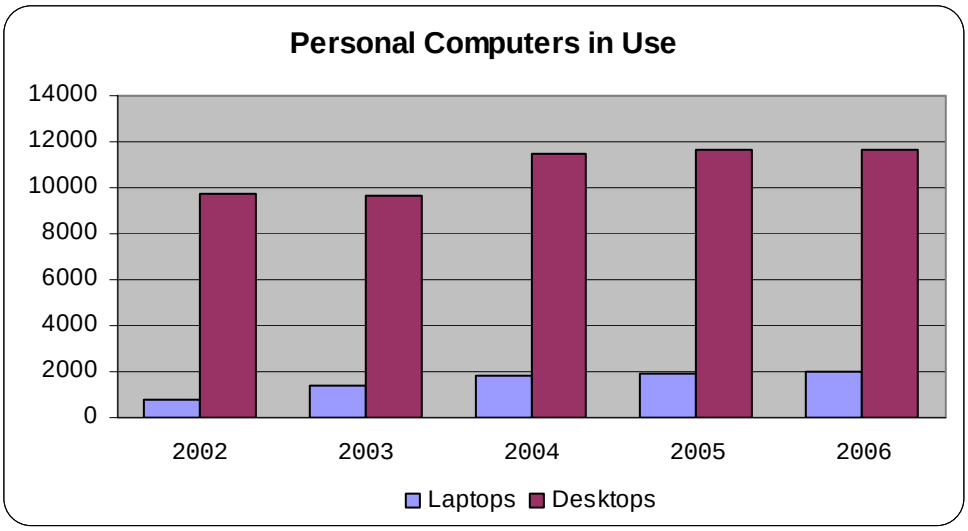


Figure 11 illustrates how the number of personal computers in use by the state has increased over time.

Agencies will need to replace a minimum of 3,229 personal computers within the next biennium in order to maintain the state's policy for PC replacement of once every four years. At an approximate cost of $1,500 per unit, the projected investment will be $4.8 million. Most agencies have not adhered to the 25 percent a year replacement schedule and will therefore require a larger capital expenditure in order to become current with state policy.

Beginning is January 2007, new computers will start shipping with the new Windows Vista operating system and we can expect to see changes in the associated office suites such as Office 2007. The state will be faced with evaluating upgrades and enterprise compatibility issues.

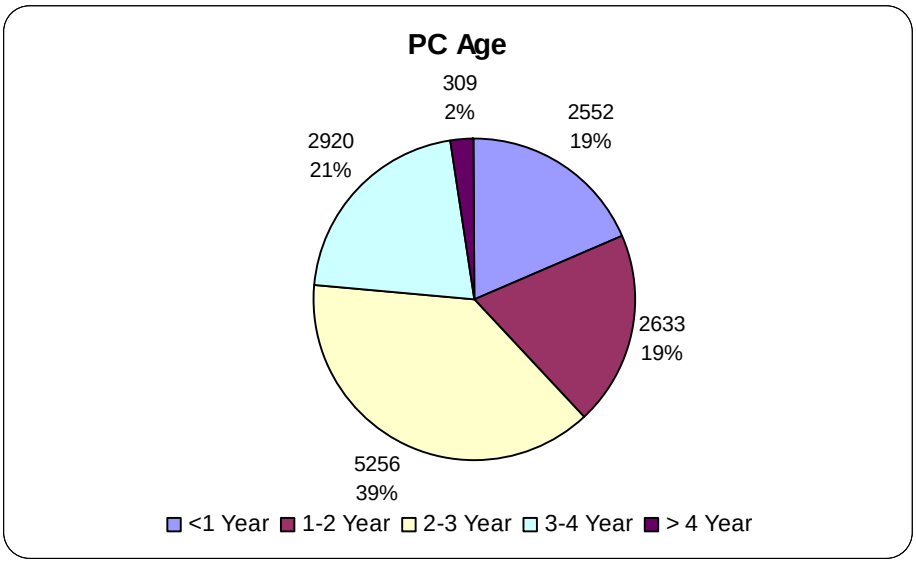


Figure 12 illustrates the distribution of personal computers by age.

Mainframe Computing Environment

The state has operated a centralized mainframe computer for many years. The state currently operates an IBM zSeries 800 Mainframe. In recent years, agencies' demand for mainframe computing services has declined as they have turned to a mid-tier computing environment for application processing and delivery of web eGovernment services. This movement is consistent with nation-wide trends. Currently, nearly 90 percent of the workload on the state's mainframe computer comes from three agencies, and these agencies have plans to migrate their applications to a mid-tier environment within the next 18 to 48 months. After this migration has occurred, the operating costs for the mainframe computer will remain nearly at their current level. The few remaining agency applications will then have the full cost burden of supporting the mainframe computing environment unless a different cost recovery method is implemented. The state must develop a strategy for managing this migration, including a plan to finance the continuing mainframe operations and IT staffing support.

Mid-Tier Computing Environment

Mid-Tier computers are generally much smaller than traditional mainframe computers and larger than "personal computers." These systems rely on the Unix, Windows and Linux operating systems. The vast majority of applications developed in the past ten years have been aimed at the mid-tier platform. Mid-tier has become the predominant platform for database services, application processing, and web services.

Mid-tier computing has grown dramatically as the demand for database services, application processing, and web-services has grown. Similarly, the need for high availability and redundancy has added to mid-tier cost and support staff work load. Smaller agencies have difficulty retaining support staff, and critical practices, such as disaster recovery, often receive less attention than they should. To provide the best value to the state for dollar expended and to provide the best service to agencies and the citizens they serve, centralization and consolidation should be aggressively pursued.

Telecommunications Network Infrastructure

SummitNet II is the integrated voice, data, and video network used by government agencies, University System, libraries, local governments, and K-12 educational institutions. Multiple telecommunications carriers throughout the state provide SummitNet II. High-speed ATM switches located in many of the larger Montana urban areas connect their respective communities and university campus' together. Additionally, VisionNet has deployed ATM switches in additional communities not supported by Qwest via their independent network of telephone service providers.

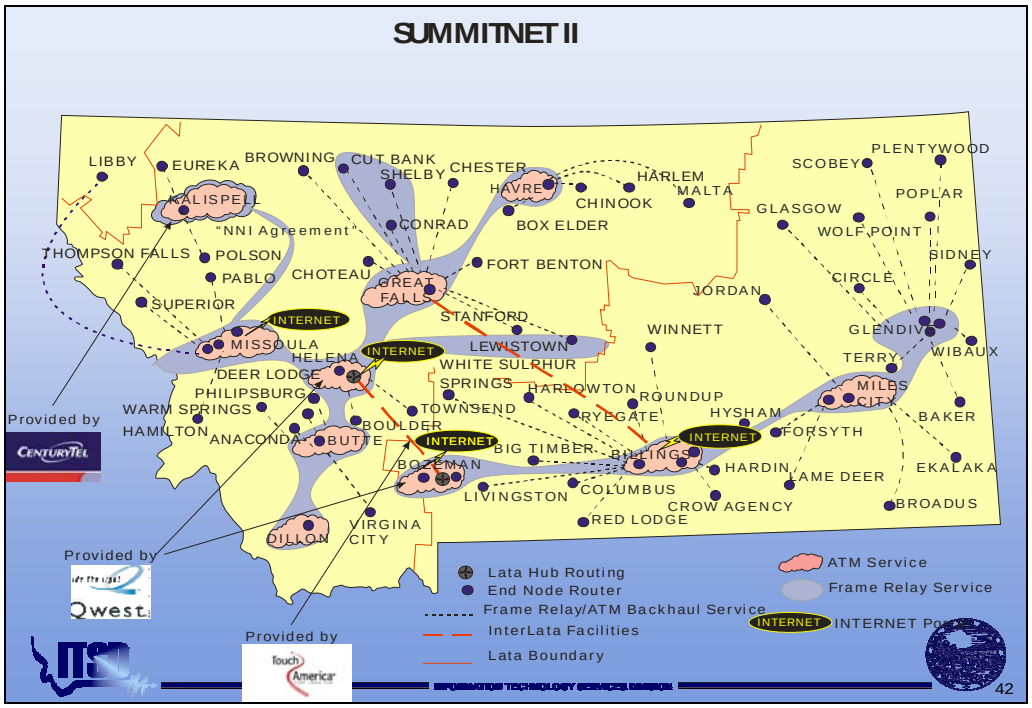


Figure 13 illustrates the Areas Serviced by SummitNet II

There are two high-speed connections between the Helena Capital Complex and the state's major telecommunications carriers, Qwest and VisionNet. These circuits are carefully monitored and protected by the Office of Cyber Protection (OCP) within ITSD. OCP manages intrusion detection, spam detection and virus scanning systems to protect desktops, servers and applications residing on the network. The network currently has 476 circuits that service over 550 sites.

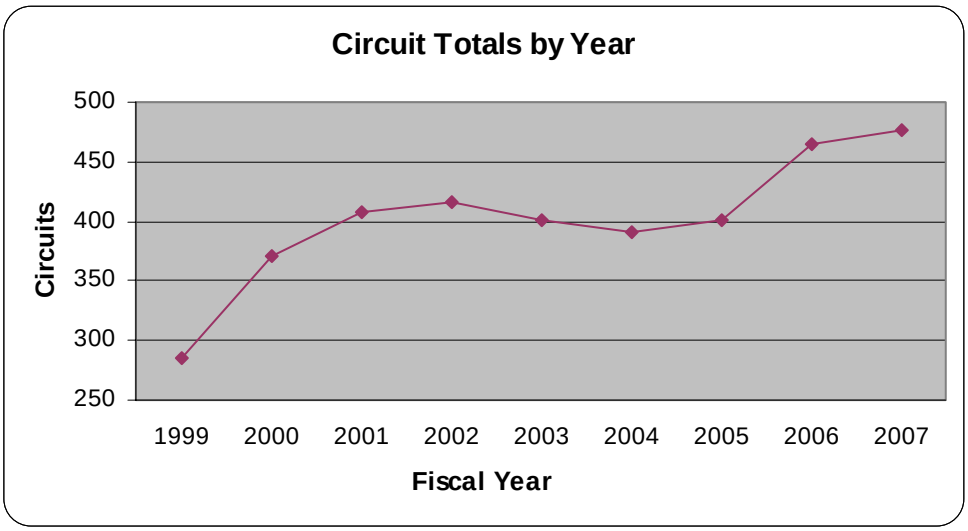


Figure 14 illustrates the growth in the number of circuits and sites serviced by the network.

The majority of remote SummitNet II connections are currently T-1 (1,544,000 bits per second) frame relay. The state has been working with Qwest and VisionNet to obtain higher speed connections. As a result of these efforts, Qwest expanded frame relay services to Lewistown, Shelby, Cut Bank and Conrad. These new services have allowed ITSD to upgrade remote connections from 56Kbps to 1.544Mbps (1,544,000 bits per second) while lowering costs at the same time.

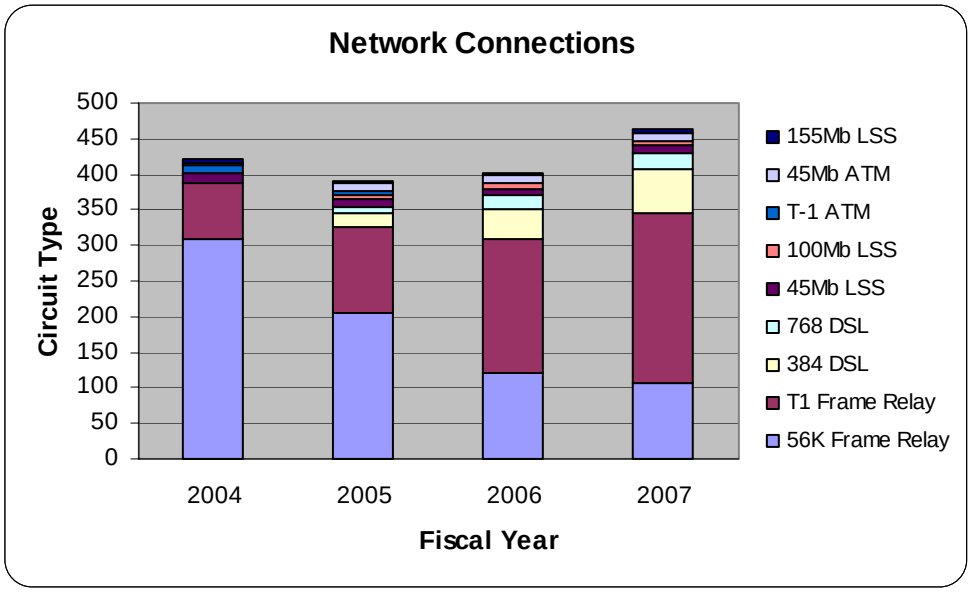


Figure 15 illustrates the increase in network connection speed over time.

Voice

On the voice side of the network, 37 Private Branch eXchanges (PBX) and 246 smaller key systems connect to SummitNet II to provide traditional voice services for the state Voice PBX and key systems. PBX servers have a much longer life than data servers. Some are used for more than 20 years. Individual components and software are upgraded within the same chassis. Features and functionality of newer systems including Voice Over Internet Protocol (VOIP) are becoming mature while costs are dropping. VOIP allows the transfer of voice traffic over lines that are typically used for data traffic. The Internet is currently carrying voice traffic through VOIP. Proper planning based on accepted standards should ensure the state's continued success in its use of its telecommunications infrastructure to reach across Montana.

Internet Access

Up until January of 2002, the state's Internet utilization grew at a modest but steady rate. By July of 2003 the growth started to accelerate, more than doubling by 2006. This growth mirrors the growth in Montana's e-Government services as well as a greater dependence on the Internet as a means of conducting research, communicating, and an increase in the amount of electronic data being sent to citizens, federal agencies, and private companies. Use of the Internet as a key strategic communications vehicle will continue to fuel its rapid growth. This trend is not expected to change in the foreseeable future. Because the Internet is becoming such an integral part of everyday business in every state agency, a second Internet access point in Billings was added as a backup in case the primary link fails. Current utilization of the network is between 60 and 70 percent.

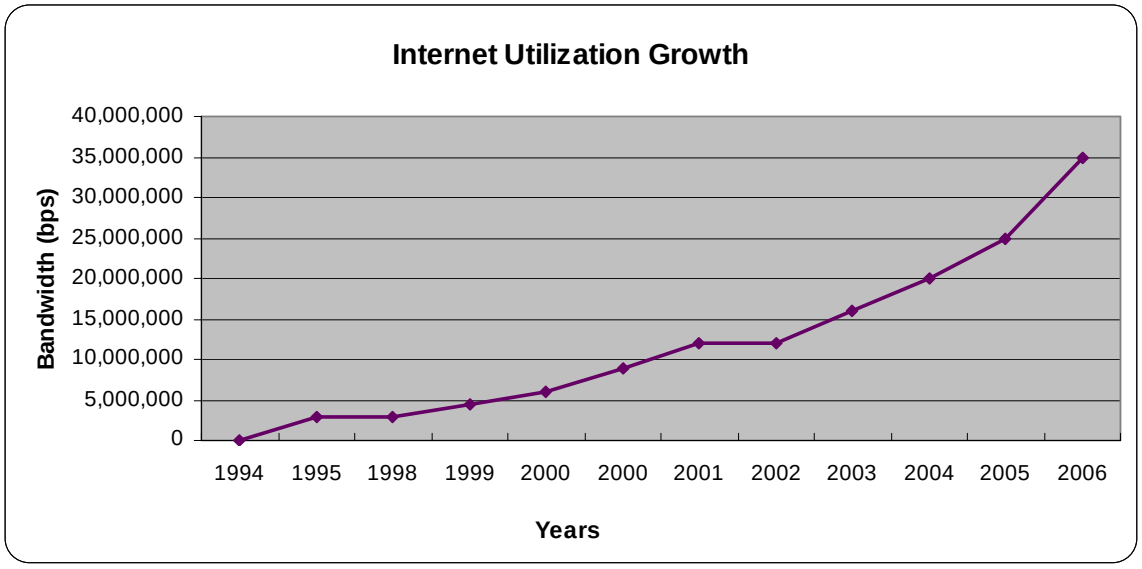


Figure 16 illustrates the Growth in Internet Utilization

Interactive Video

The Montana Educational Telecommunications Network (METNET) is an H.320 and H.323 (a national transmission standard for video data) compliant subscription service that supports both state agencies and the university system's delivery of two-way interactive distance learning classes, hearings, and meetings. The system uses the SummitNet II infrastructure to connect 16 conference facilities in 13 cities across Montana.

There is an increasing emphasis on the use of network and computing services to support the administrative and business needs of the state, IT employees, citizens, and businesses. There is an increased demand of video, audio, and high definition graphics. The state needs to invest in infrastructure and support services if it is to meet the changing expectations of those accessing government services and information.

Investments in transport services, management tools, supporting infrastructure, and people have been frozen for more than six years. We will need to make the one-time investments to update the current IT support structure and increase on-going operational budgets in order to meet the increasing demand being placed on the network.

One solution to this problem is to utilize a high speed optical network across the state with circuits capable of delivering data at 20 GPS. The "Northern Tier Initiative" utilizes existing infrastructure in a cooperative effort with the education and research community. The relatively low cost of using the existing Northern Tier backbone will allow for a larger amount to be spent on local connectivity.

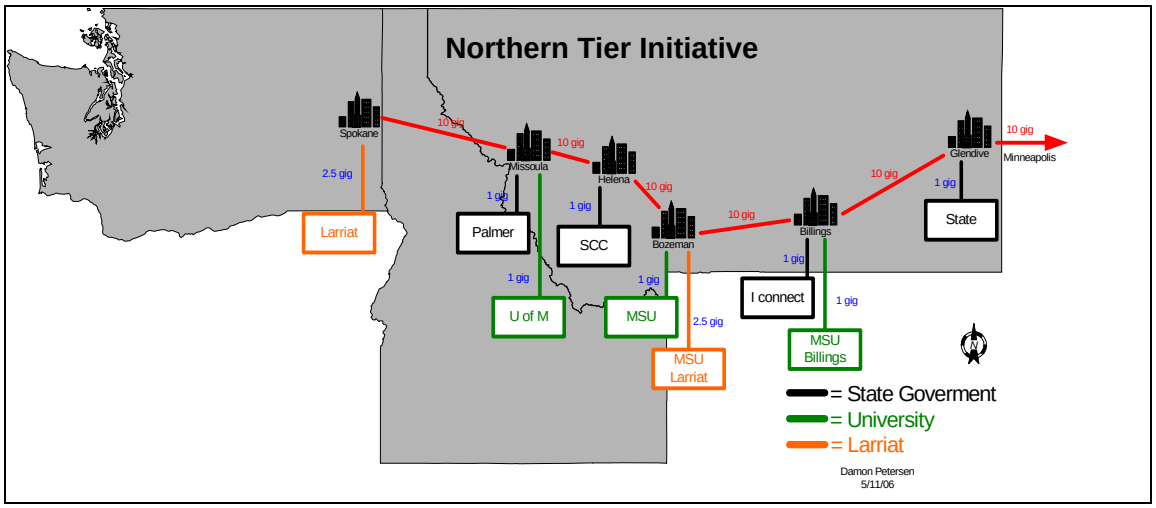


Figure 17 illustrates Montana's part in the Northern Tier Initiative

ITSD Data Storage Environment

Data storage demand has grown dramatically in recent years. ITSD and agencies are using Storage Area Network (SAN) technology to ease the administrative burden, share files across multiple servers, and provide advanced storage features. Recent improvements in the Capitol complex network make it possible to centralize agency storage in ITSD to realize increased economies of scale.

IT Staffing

The Legislative, Judicial, and Executive branches currently employ approximately 830 staff to support their IT systems. The University System is not included in this total. Overall, the state has 6.5 percent of all employees specializing in supporting the IT infrastructure. Gartner's 2005 survey found the percentage of state IT employees is usually 7 percent to 8 percent of the total employee population. For more detailed information, refer to Appendix B online at http://itsd.mt.gov/techmt/2007biennialappend.asp.

Montana is significantly lower because Montana continues to rely heavily on outside contractors. The equivalent of 221 IT FTEs is being employed by agencies through contracting. Although contractors comprise 22.2 percent of all IT staffing, they consume 50 percent of the funds spent on IT staffing. In fiscal year 2006 the state spent more than $34.6 million on private IT contractors, 25.2 percent of the total IT expenditures for the state. Other states average only 6.7 percent on outside contractors.

Recruitment of IT professionals with the necessary IT skill is the largest staffing problem identified by agencies. Anecdotal evidence of small candidate pools, large percentages of unqualified candidates, and repetitive hiring efforts are common across many agencies. Several agencies have been unable to hire IT project managers with sufficient skills to manage their largest IT projects. Many IT managers attribute existing salary limits as a significant aspect of their hiring problem.

IT Expenditures

Based on data from the Statewide Accounting, Budgeting and Human Resource System (SABHRS) Montana's total IT expenditure for fiscal year 2006 was $121,720,749, a growth of 5.1 percent annually since fiscal 2004. Montana IT expenditures are following a predictable historical trend and remain a fairly constant 2.8 percent of state operating expenses. Montana's total IT expenditure of 7.3 percent of all operating expenditures is in line with other states, according to Gartner. Gartner's surveys show that states spend between 6-7 percent of their total operating budgets on IT. The following chart illustrates the agencies with the highest IT expenditures.

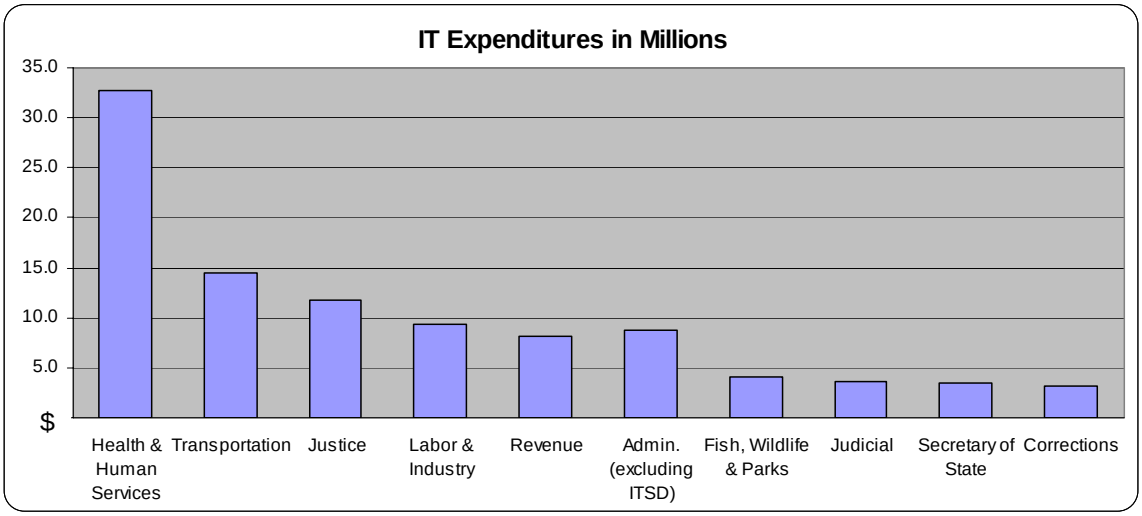


Figure 18 illustrates the top ten agencies with the highest IT expenditures (A complete list can be found in appendices C and D online at http://itsd.mt.gov/techmt/2007biennialappend.asp)

Figure 19, below, is a breakdown of IT expenditures by categories. The graph also compares Montana's expenditures to the average of other states from Gartner's 2005 survey. Montana varies significantly from other states in two areas:

- Montana has a very large dependency on contracted services. As a percent of total IT expenditures, Montana spends almost 4 times as much on contractors as do other states.
- Montana's expenditures on packaged software (12.8%) are far less than what other states spend (20.3%). Montana appears to be relying on custom built software instead of purchasing standard packages.

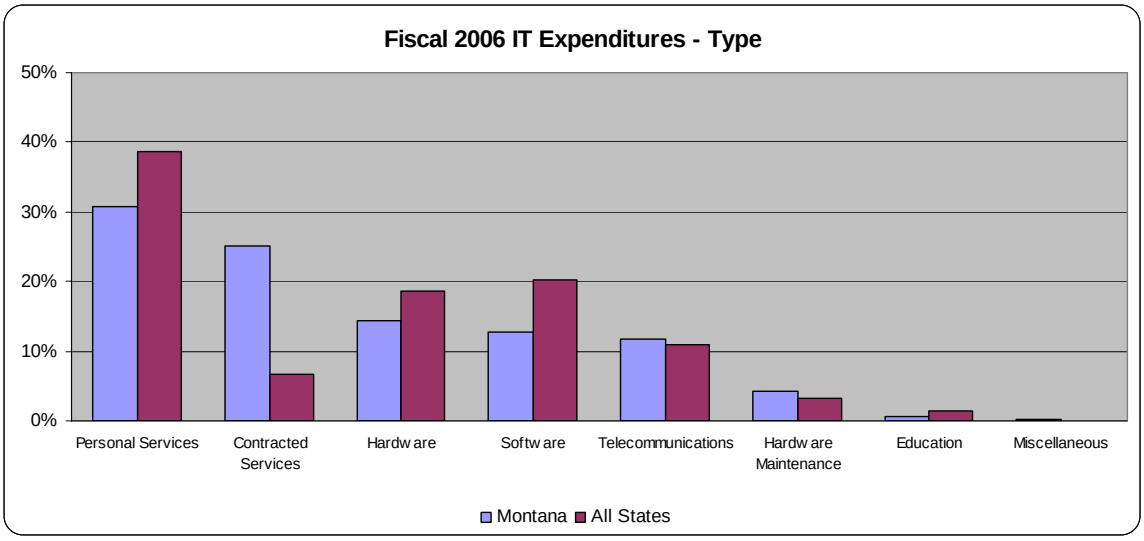


Figure 19 illustrates IT expenditures by type compared to other states.

Major Information Technology Projects

Major IT projects for Montana are primarily defined as projects requiring a minimum of $300,000 in funding over the upcoming biennium. The funding can come from a variety of sources, including state funds, federal funds, and user fees.

Montana is entering a new era, with projects defined by greatly increased IT expenditures brought on by the need to replace many aging mainframe systems. Among the major systems, four are from Health and Human Services, with one each from Justice and Revenue.

- Child & Adult Protective Services (CAPS) $33.5M
- Welfare (TANF) $16.2M
- Medicaid Management System (MMIS) $70.0M
- Foods Stamps $13.1M
- Free Electronic Filing of Income Tax $6.8M
- Motor Vehicle & Driver Licensing (MERLIN) $15.9M (currently in progress)

In addition to agency application development efforts, DOA/ITSD is proposing two major IT infrastructure projects.

The first major infrastructure proposal calls for the construction of new facilities in Helena and in an undetermined Eastern Montana location to house the enterprise services provided by ITSD. The estimated investment needed for these new centers is $25 million. The Helena facility would house the enterprise data center, a network operations center, and a voice telecommunications operations center. The facility has 15,000 square feet of raised floor, and would house approximately 100 ITSD Operations staff plus an estimated 30-50 technical staff from other agencies. If feasible, space for the 60 other non-operational ITSD staff would also be made available. The remote facility will house an enterprise data center, a backup network operations center, and a backup voice telecommunications operations center and be located somewhere in eastern Montana. Initial size of the remote facility is estimated to be 5,000 square feet. More details are available in Appendix H at http://itsd.mt.gov/techmt/2007biennialappend.asp .

The second is a major network upgrade that would use the old Touch America fiber network and is known as the Northern Tier Project. At a projected cost of $6.7 million, it would power up the dark (dormant) fiber along highway I-90 to replace or enhance our current backbone network that is approaching its capacity. This is a significant upgrade that would result in a 200 fold increase in network capacity and would enable numerous new uses of technology and solve current "bandwidth" problems.

The governor's budget also includes $7 million as the state's 50 percent matching share the development of a supercomputer site at Montana Tech. IBM has offered the opportunity to install a supercomputer in Butte for research and higher education.

The IT recommendations and 2009 Biennial Budget Requests are included in Appendix E available online at http://itsd.mt.gov/techmt/2007biennialappend.asp. Appendix F available online at http://itsd.mt.gov/techmt/2007biennialappend.asp contains a summary of all the major IT projects for fiscal 2005 and 2006. For the past three years agencies and ITSD have been focusing on improving their project management practices and the efforts have paid dividends. During this period, no IT projects were terminated or failed to deliver the required system.

A complete summary of all major IT projects can be found in appendix G available online at http://itsd.mt.gov/techmt/2007biennialappend.asp. The Office of Budget and Program Planning (OBPP) assembled a list of projects that would be funded through the Executive Planning Process and are included in the governor's budget proposal. Some projects are funded outside of the EPP process. These projects were identified during the spring of 2006 as part of the IT planning cycle. Projects on both lists will be reviewed and funded through the 2007 legislative session.

Other IT Issues

The Evolving Role of State Chief Information Officers

Among states throughout the country, the tension between centralization and decentralization persists, with the trend toward centralization becoming more widespread. Because of cost pressures, centralizing the management of government IT assets and functions is popular but not always appropriate. Ultimately, the CIO's role and duties should align with the expectations of senior government officials. It is important for the CIO to provide the kind of leadership for the state that is in line with the particular stage of the state's evolutionary process. An Enterprise CIO and centralized IT management both require an explicit mandate from political leaders of the state.

Open Source Software in Government

Open Source (OS) is an alternative to the proprietary approach to software development and licensing. The Open Source method of developing and distributing software makes application source code available to all interested parties at no cost. OS operating systems and web server products have been very successful throughout the IT industry.

By contrast, proprietary software vendors, such as Microsoft, do not release their source code. They perceive that doing so will endanger their intellectual property and the potential revenue stream it produces. They also believe it would endanger the quality of the product.

In 2003 the state of Montana established Linux, an open-source software product, as a standard product to be used for database and web server implementations. ITSD presently has about 75 servers running these products, and many agencies do as well. The use of office productivity open-source software has not yet had the same success as OS operating systems and web server applications. ITSD recommends that a study be conducted to explore the use of open-source productivity applications and recommend its role in the state enterprise.

Records Management

As the state's executive, legislative, and judicial offices perform their missions, they produce official records and information representing important business assets supporting government operations. Each agency is responsible for managing the records it creates and receives. State agencies currently use disparate media, formats, and processes to manage their records. This practice has the potential for exposing agencies to considerable risks to their operational and mission-related responsibilities. To mitigate these risks, agency decision-makers need guidance in the form of defined Records and Information Management (RIM) policies, standards, and procedures that are applied consistently across the state government enterprise.

To begin a direction for state government, the Secretary of State's office intends to formulate an Electronic Records and Information Management (eRIM) Task Force that will help outline needs, priorities, funding, and risks. The intent is that this group will give direction for agencies that will promote and enable enterprise-wide compliance, continuity of government, content and document management, and digital preservation. The goal is to bring process improvement and business efficiencies to agencies and employees by way of standardization, workflow, retention application, education and training.

The Secretary of State's Office proposes to work closely with the Department of Administration Information Technology Services Division (ITSD) for the purpose of associating electronic records and information management (eRIM) requirements with information technology (IT) capabilities. The objective will be to enhance compliance across the enterprise with state and federal requirements.

Real ID

Enacted in May of 2005, the Real ID Act requires states to adopt certain standards, procedures and requirements for issuing drivers licenses and identification cards if they are to be accepted as identity documents by the federal government. In essence, the Act establishes a national identity card. After May 11, 2008, a federal agency may only accept, for official purposes, state licenses or identification cards that meet requirements specified in the Act.

The Department of Homeland Security has said that states, not the federal government, must bear implementation costs for Real ID. The American Association of Motor Vehicles Administrators has estimated that it will cost Montana a one-time amount of approximately $5.8 million for implementation of Real ID. On-going annual costs for Montana are estimated to be $2.9 million. These estimates include both IT and non-IT costs. Additionally, if Montana adheres to the DHS identification card specifications, there will be an additional one-time cost of $2.9 million and on-going costs of $2.1 million annually.

There could be some push-back from some states regarding implementation of Real ID standards, with some states choosing not to implement Real ID. Whether or not Montana chooses to implement federal requirements for Real ID will be a policy decision made by the state legislature. Montana already meets many of the Real ID standards, so it will be less difficult for Montana to comply than it will be for some other states.

Security - National and Local Issues

Information is one of the most valuable assets a company or government may possess. While 'information' covers a broad spectrum, there is an ever increasing focus on maintaining the security of what is considered sensitive data, including:

- social security numbers
- personal health information
- credit and debit card numbers and pins
- passwords

Businesses and governments would not be able to conduct meaningful operations without access to the information required to support defined business functions.

Unauthorized access to, or inappropriate use of, sensitive information is on the rise nationally. A great deal of planning and resource expenditures is required in order to protect the state's systems. The Office of Cyber Protection (OCP) estimates that there are nearly 2 million attempts daily to access the state's information systems defensive wall. The majorities of these are automated attempts and are reasonably easy to thwart, but many are carefully designed and require much more sophisticated methods of protection.

It is far easier to maintain the trust and confidence of those to whom the information is directly linked, as well as the public in general, by proactively preventing security breaches than it is to regain that trust after a 'security incident' occurs. Repairing the damage is both costly and difficult to achieve.

Data security legislation only exists at the state government level, with 34 states having passed such laws. However, their main intent has been to mandate consumer notification of a breach and not the issue of prevention. While this subject is being debated at a national level, with seven bills under consideration by Congress, progress has been slow.

It is incumbent upon those responsible for maintaining state information security to remain ever vigilant while continuing to craft and adhere to the necessary policies and procedures which will insure the highest level of confidence possible.

Security Policies

The state has been entrusted with the stewardship of a large amount of sensitive information. This responsibility requires adherence to adequate safeguards to insure its security. Achieving and maintaining the highest level of security is only possible when everyone who has access to the systems, data, and networks understands these issues and knows what is expected of them. If users are not sure of what is expected of them, there is a high likelihood of them making poor decisions. Those decisions may include downloading and installing unapproved software, sharing sensitive information via e-mail, visiting malicious or inappropriate websites, and other activities that puts our information at risk.

The most effective and appropriate means of keeping employees informed is through the use of readily accessible, well thought out and documented guidelines, standards, and policies. The intent of any policy must be crystal clear and should be adequately reflected throughout a broad base of like-minded policies.

The state has made recent progress in this area with the creation of an interim policy on Security of Sensitive Data.

Policies presently under development include:

- Acceptable Use
- Physical Security
- User Rights Standards
- Internet Filtering
- Collaboration Tools
- Streaming Media Content Creation.

New administrative guidelines for the development of policy to establish and implement statewide Information Technology policies and standards have also been recently established.

Development of policies addressing the protection of the state's information assets is continuing. To be effective, these policies must contain adequate and reasonable auditing capabilities along with meaningful enforcement and penalty provisions. Unwavering support from the highest levels within the state will be necessary to insure future success.

Protection of sensitive data entrusted to the state has been and must continue to be of paramount importance. While it is the state's responsibility to craft and maintain the necessary policies, it remains incumbent upon the individual to read, understand, and follow them.

Geographic Information Technology Enterprise Infrastructure

The use of Geographic Information Technology (GIT), whether Geographic Information Systems (GIS), Global Positioning Systems (GPS), Remote Sensing or other specialized areas is rapidly expanding throughout the state. This expansion is seen in both traditional areas like natural resources and emergency response, and in new areas like economic development and health care.

GIT, whether delivered via the Internet or more traditional map products, provides a very visual approach to supplying the geographic component that is inherent in almost every state business process or important state issue. Because of a rapidly changing GIT environment, the Montana Spatial Data Infrastructure (MSDI), the Montana Land Information Act (MLIA), the Montana Land Information Advisory Council (MLIAC) and GIS Coordination at ITSD, need to be fused together through a Common Operating Picture (COP) to better serve Montana's needs.

Explosive growth in GIT and the need to integrate with federally mandated enterprise architecture will require the State to adapt and employ new technologies such as web services, federated approaches to the collection, maintenance and distribution of data, and service oriented architectures.

The Montana Spatial Data Infrastructure (MSDI) serves as the foundation for base geospatial data in Montana. A reliable infrastructure theme, stewardship and leadership, along with long-term funding for collection, maintenance, integration, enhancement, and dissemination are needed. To assist in the infrastructure development, the Montana Land Information Act (MLIA) is proceeding under Administrative Rule established in September 2006. A 2007/2008 Land Information Plan has first round grants to be awarded in May, 2007. MLIA funds will not ultimately meet all the needs of the Spatial Data Infrastructure and a federated enterprise GIT community, so other funding sources must be identified. The Montana Land Information Advisory Council must remain engaged in the Montana Land Information Act and infrastructure processes, while actively adapting current policy and vision to a changing environment.

A federated enterprise GIT community demands clearly defined roles and responsibilities that may differ from current roles assumed over the years. Adopting the recommendations from Montana’s Chief Information Officer's Committee on a GIS Common Operating Picture, and the hiring of a State Geographic Information Officer (GIO) will help clarify those roles and responsibilities leading to effective and efficient GIT development now and in the future.

Appendices

Analysis of IT Infrastructure ……..…. .....A

Agency IT Staffing …….…..…. .....B

Agency IT Expenditures for Fiscal 2006 (chart) ……..…. C

IT Expenditures as a Percent of State Operating Expenditures ……..…..D

IT Recommendations and 2009 Biennial Budget Requests ……..….. .....E

Major IT Projects for Fiscal 2005-06 ……..…. ..... F

Major IT Projects for Fiscal 2008-09 ……. .....G

ESSC Proposal …….....H

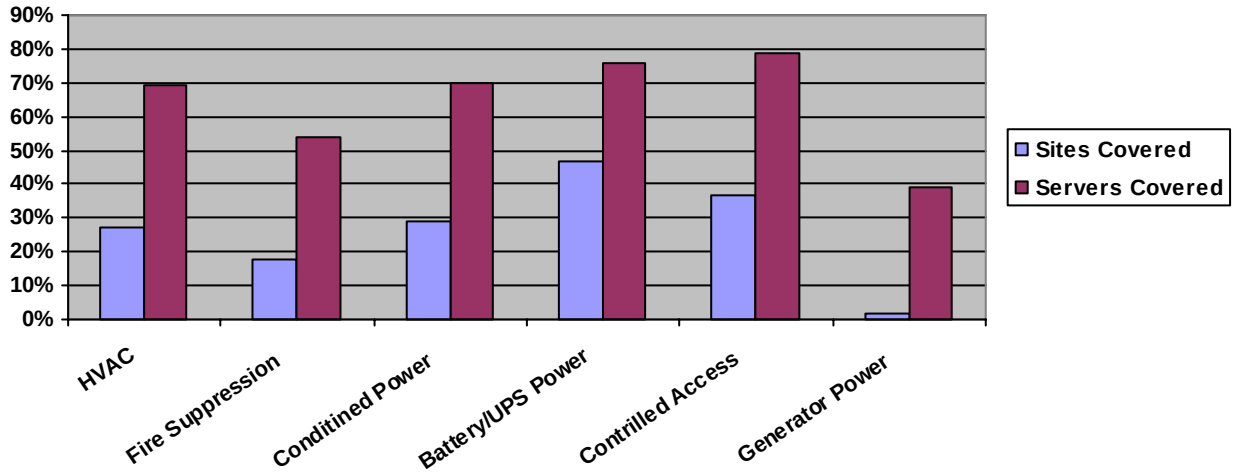
The appendices have not been printed as part of this report. They can be found on ITSD's web site at http://itsd.mt.gov/techmt/2007biennialappend.asp. If you wish a printed copy of an appendix, please contact:

Kyle Hilmer
Chief of the Policy and Planning Services Bureau
406-444-5476
E-mail: KHilmer@mt.gov

Appendix A – IT Inventory Analysis
Server Location Analysis

Protections for Locations and Servers by Type	HVAC	Fire Suppression	Condition Power	Battery/UPS Power	Controlled Access	Generator Power
Sites Yes	**80**	**53**	**84**	**139**	**107**	**7**
%	27%	18%	29%	47%	37%	2%
Sites No	**213**	**240**	**209**	**154**	**186**	**286**
%	73%	82%	71%	53%	63%	99%
Total Sites	293	293	293	293	293	293
Servers Yes	**641**	**500**	**651**	**706**	**738**	**361**
%	69%	54%	70%	76%	79%	39%
Servers No	**293**	**434**	**283**	**228**	**196**	**573**
%	31%	46%	30%	24%	21%	61%
Total Servers	934	934	934	934	934	934

Figure A-1. Protective System Summary



Discussion: There are 293 sites, housing 934 physical servers, which store and run the state's software applications. Due to their critical nature, data centers are typically designed to have special environmental protections in place. The typical protections are:

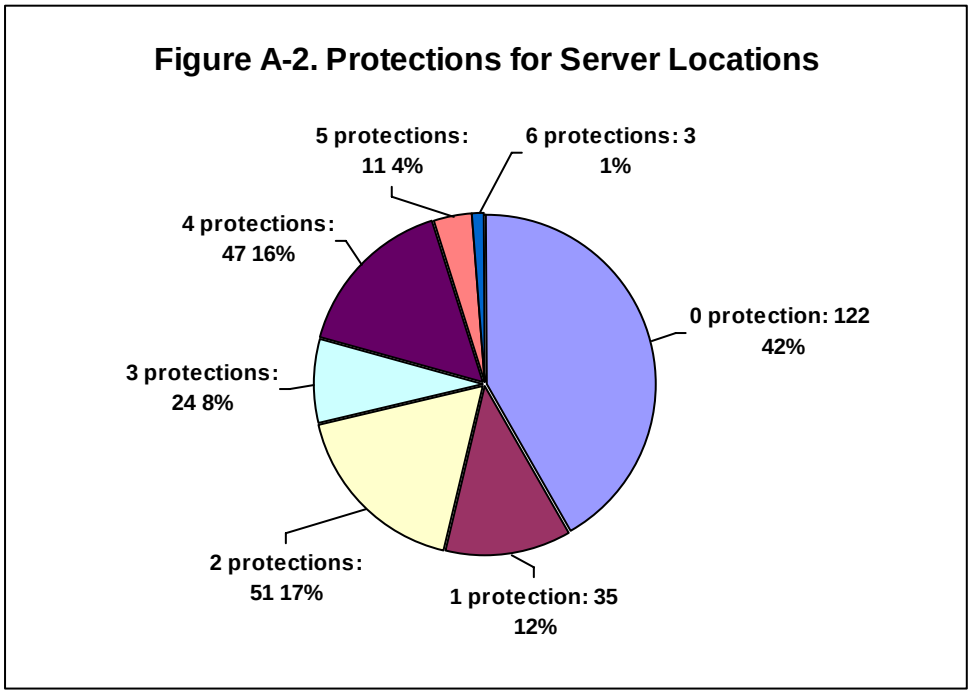
- HVAC (heating, ventilation, air-conditioning
- Fire suppression system
- Conditioned power source the eliminates voltage drops and peaks
- Battery backup for power during temporary outages
- Local/controlled access
- Generators for alternate power source over extended periods

Figure A-1 illustrates the percentage of servers and sites covered by the typical protective systems.

There appears to be great disparity among the levels of protection installed for the state's data centers. The larger data centers typically have most of the standard protective systems listed above; however, many of the smaller data centers have few or none of the critical protective systems in place.

Appendix A – IT Inventory Analysis
Server Location Analysis

Protections for Locations and Servers								
Level of Coverage	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
Sites	122	35	51	24	47	11	3	293
%	42%	12%	17%	8%	16%	4%	1.0%	
Servers	132	27	124	50	134	172	295	934
%	14%	3%	13%	5%	14%	18%	32%	



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- Battery backup for power during temporary outages
- Local/controlled access
- Generators for alternate power source over extended periods

Figure A-2 illustrates the breakdown of the protection level for servers.

While only three sites that have all six levels of protection (the ITSD data center in the Mitchell Building, DOJ at Fort Harrison, and MDT), 295 or 32% of the state's servers are located at those three locations, 601 or 64% of the State's servers are located in sites with four or more protections. A total of 157 or 17% of servers are in isolated locations that have one or no protections.

Appendix A – IT Inventory Analysis
Server Analysis

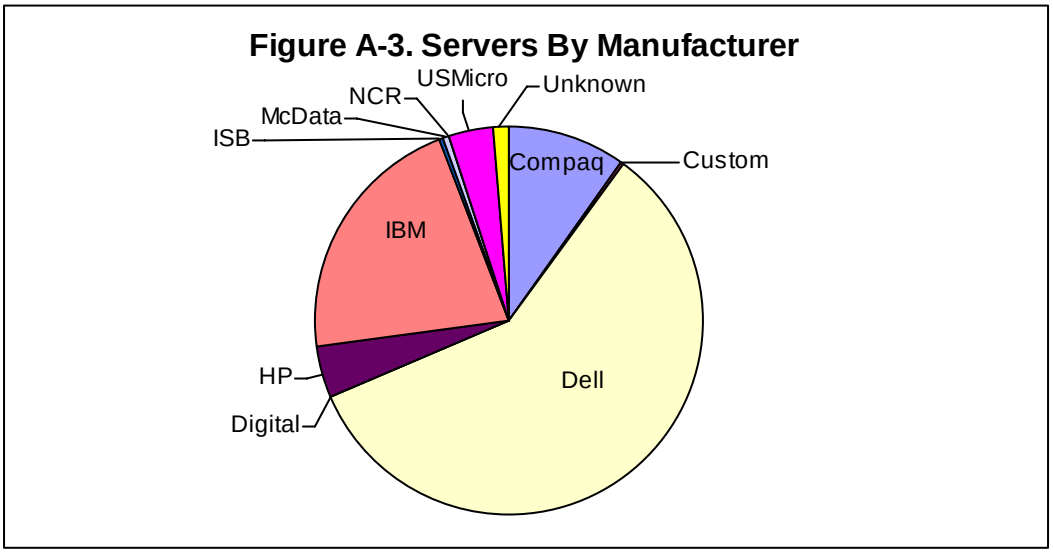
Number of Servers by Agency					
	Physical Servers	Physical with Virtual	Virtual Servers	Total Servers	SAN
AGR	6	0	0	**6**	0
ART	1	0	0	**1**	0
CHE	4	0	0	**4**	0
COR	46	0	0	**46**	3
CPP	1	0	0	**1**	0
DEQ	17	0	0	**17**	5
DLI	66	0	0	**66**	5
DMA	2	0	0	**2**	0
DNR	28	0	0	**28**	0
DOA	1	0	0	**1**	0
DOC	40	0	0	**40**	0
DOJ	44	2	5	**47**	0
DOR	60	0	0	**60**	0
FWP	26	0	0	**26**	5
GOV	2	0	0	**2**	0
HHS	119	0	0	**119**	0
HIS	2	0	0	**2**	0
ISD	207	17	154	**344**	0
JUD	40	0	0	**40**	0
LEG	3	0	0	**3**	1
LIV	4	0	0	**4**	0
LOT	1	0	0	**1**	0
MDT	86	0	0	**86**	1
MSL	19	0	0	**19**	8
OPI	14	0	0	**14**	4
PER	1	0	0	**1**	0
PSC	5	0	0	**5**	0
SAO	4	0	0	**4**	0
SDB	7	0	0	**7**	0
SOS	8	0	0	**8**	2
STF	64	2	4	**66**	18
TRD	6	0	0	**6**	
Total	**934**	**21**	**163**	**1076**	**52**

Discussion: The state has 934 servers in operation hosing more than 1076 physical or virtual serves. With appropriate software, dozens of virtual servers may reside on a single physical server. Users are unaware that they are not running on a dedicated server. ITSD, DOJ, and STF use this technique to reduce the number of servers, simplify management, and minimize software-licensing cost.

There are 50 servers that are dedicated to running Storage Area Networks (SAN) for the purpose of backing up and storage of large amounts of critical data. There are eight agencies that are currently Employing SANs; COR, DEQ, DLI, FWP, LEG, MDT, MSL, OPI SOS, and STF, MDT.

Appendix A – IT Inventory Analysis
Server Analysis

Servers by Manufacturer and Type							
	PC	Mid Tier	Main Frame	Other	Unknown	Total	Percent
Compaq	3	85	0	2	0	**90**	9.6%
Custom	3	0	0	0	0	**3**	0.3%
Dell	394	131	0	10	13	**548**	58.7%
Digital	1	0	0	0	0	**1**	0.1%
HP	19	13	0	2	3	**37**	4.0%
IBM	26	159	1	15	0	**201**	21.5%
ISB	1	0	0	0	0	**1**	0.1%
McData	0	6	0	0	0	**6**	0.6%
NCR	1	0	0	0	0	**1**	0.1%
USMicro	0	32	0	0	0	**32**	3.4%
Unknown	0	1	0	0	13	**14**	1.5%
Total	**448**	**427**	**1**	**29**	**29**	**934**	
Percent	48.0%	45.7%	0.1%	3.1%	3.1%		



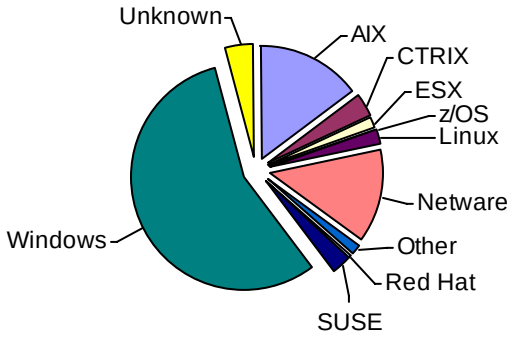
Discussion: By definition, a server is a multi-user computer that provides a specific type of service to client software running on other computers – usually PCs. For our purposes, the term server refers to a physical or virtual computer on which server software is running. A single server my have many applications running on it; therefore, the server may provide many different services to many different users on the network. Servers in this report include everything from a large mainframe down through mid-tier size servers and included large desktop computers if they are operating as a server.

Figure A-3 illustrates the breakdown of servers by manufacturer. Dell and IBM make up the larges portion of the state's servers, about 80%. With the merger of Compaq and HP, almost 14% of the state's servers are HP.

Appendix A – IT Inventory Analysis
Server Analysis

Servers by Operating System and Type							
	PC	Mid Tier	Main Frame	Other	Unknown	Total	Percent
AIX5	2	52	0	0	2	**56**	6.0%
AIX PV	0	4	0	0	0	**4**	0.4%
CITRIX	24	4	0	0	0	**28**	3.0%
ESX	0	12	0	0	0	**12**	1.3%
IBM AIX	0	65	0	0	0	**65**	7.0%
IBM Z/OS	0	0	1	0	0	**1**	0.1%
Linux	1	2	0	0	14	**17**	1.8%
Netware 6.5	176	5	0	12	0	**193**	20.7%
Netware PV	25	1	0	0	0	**26**	2.8%
Other	2	11	0	0	0	**13**	1.4%
RedHat Linux	3	0	0	1	0	**4**	0.4%
SUSE Linux 9	4	3	0	1	6	**14**	1.5%
SUSE Linux PV	2	7	0	1	0	**10**	1.1%
Windows PV	76	94	0	8	0	**178**	19.1%
Windows 2003	133	152	0	4	5	**294**	31.5%
Unknown	0	15	0	2	2	**19**	2.0%
Total	**448**	**427**	**1**	**29**	**29**	**934**	
Percent	48.0%	45.7%	0.1%	3.1%	3.1%		

Figure A-4. Server Operating Systems

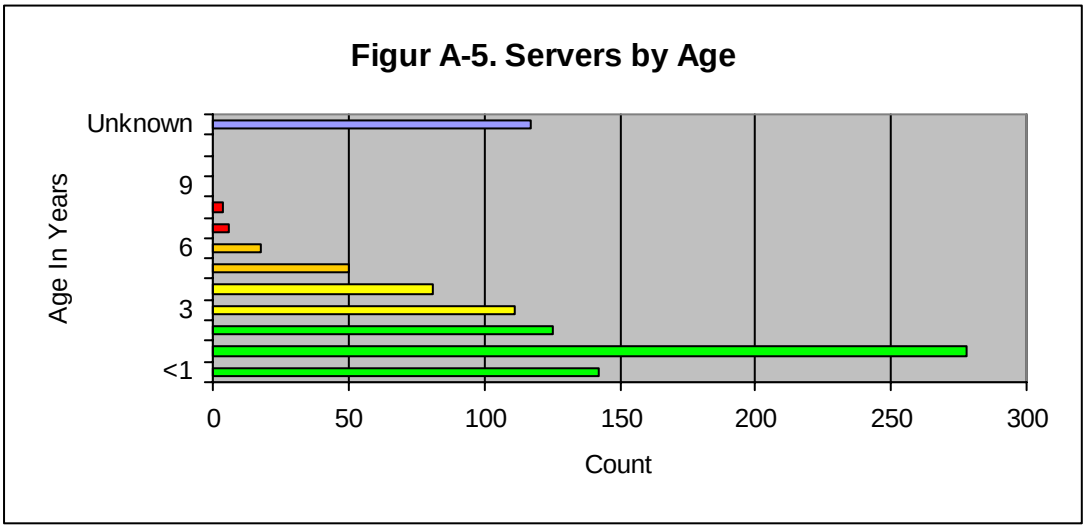


Discussion: The operating system controls the other application software running on the server. Windows is the predominate server operating system within the enterprise landscape. There are 14 separate operating systems currently in use throughout the state. This diversity contributes to the complexity associated with providing support and planning future growth strategies, while maintaining the enterprise infrastructure.

Figure A-4 illustrates the breakdown of server operating system by type.

Appendix A – IT Inventory Analysis
Server Analysis

Servers by Age		
Years	**Number**	**Percent**
<1	142	**0.152034**
1	278	29.8%
2	125	13.4%
3	111	11.9%
4	81	8.7%
5	50	5.4%
6	18	1.9%
7	6	0.6%
8	4	0.4%
9	0	0.0%
10	1	0.1%
>10	1	0.1%
Unknown	117	12.5%
Total	**934**	

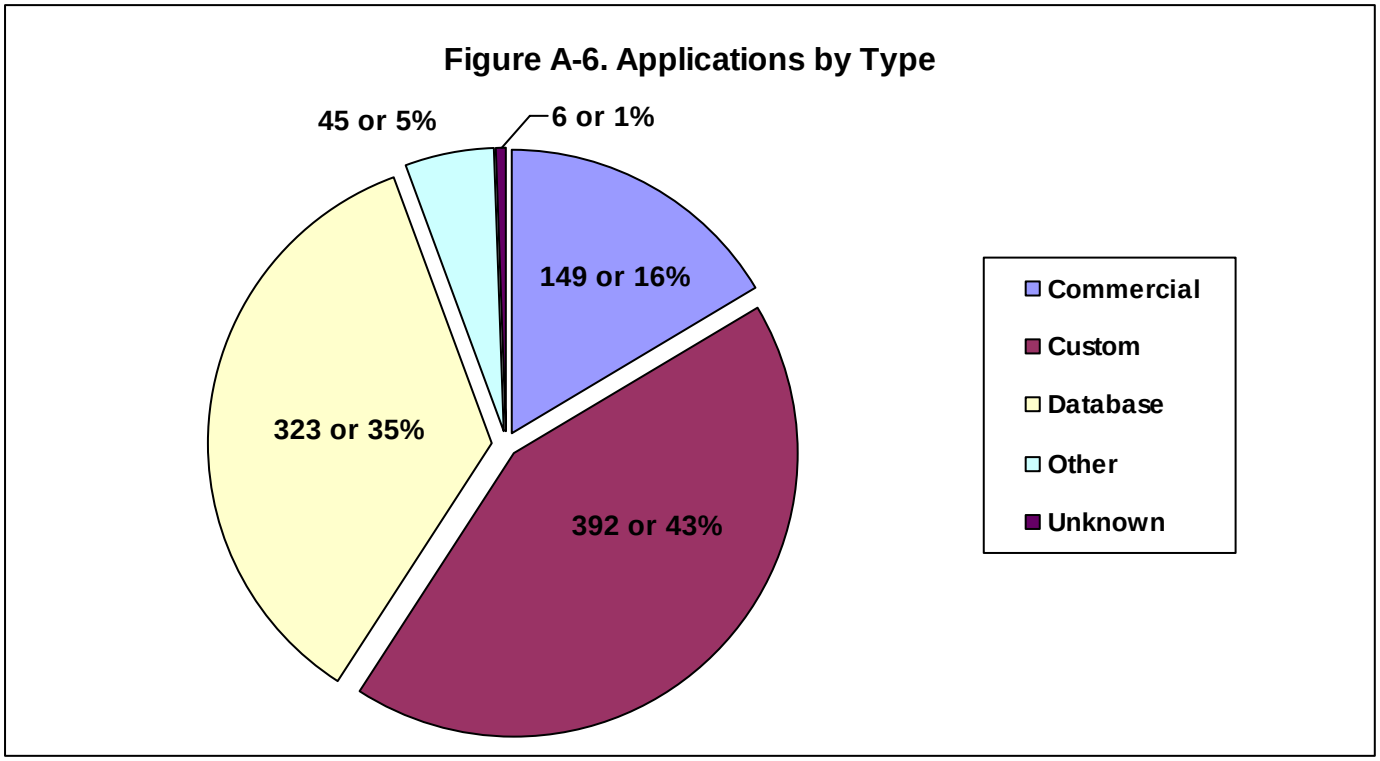


Discussion: Of the 934 servers identified within the survey, 79% are four years old or newer. Most hardware vendors commit to five years of parts availability for servers; therefore, five years is the reasonable upper limit for the life of a deployed server. There is, however, one server operating in COR that was put into operation in 1992.

Figure A-5 illustrates the age distribution of servers identified within the agency.

Appendix A – IT Inventory Analysis
Application Analysis

Applications By	Type	Number	Percent
	Commercial	149	16%
	Custom	392	43%
	Database	323	35%
	Other	45	5%
	Unknown	6	1%
	Total	**915**	**100%**



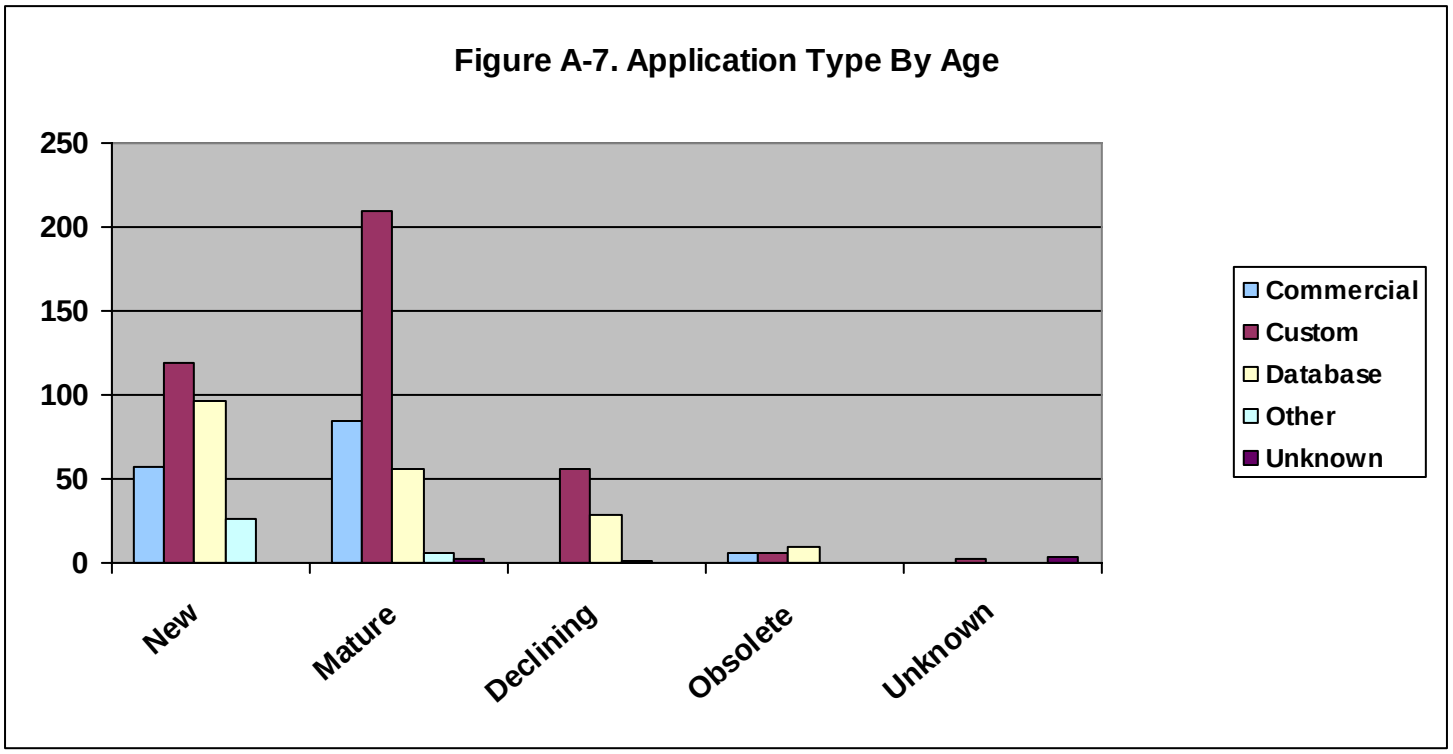
Discussion: Applications are software that can include single-user desktop applications to large system – wide applications and business- related utilities used by many users. Applications are used to carry out a wide variety of functions performed by agencies within the state government. These functions support internal, state-related business processes as well as external, public-related business transactions. The survey data does not reflect the single-user allocation.

Our applications are classified into three major categories; **commercially** available and procured, **custom** built, or a **database** (data storage) application. Only 16% of the applications used by the State of Montana are commercially available products. 43% are custom built to meet the unique needs of the state, or because a commercial application was not available.

Figure A-6 illustrates the breakdown of the state's major applications by type.

Appendix A – IT Inventory Analysis
Application Analysis

Applications By Age		Type of Application						Disaster Recovery		
	Age	Comm.	Cust	Database	Other	Unknown	Total	Yes	No	Total
	New	57	119	97	26	0	**299**	62	237	**299**
	Mature	85	209	185	17	2	**498**	115	383	**498**
	Declining	0	56	29	1	0	**86**	10	76	**86**
	Obsolete	6	6	10	0	0	**22**	11	11	**22**
	Unknown	1	2	2	1	4	**10**	0	10	**10**
	Total	**149**	**392**	**323**	**45**	**6**	**915**	**198**	**717**	**915**
Disaster Recovery	**Yes**	26	37	128	7	0	**198**	**22%**		



Discussion: Applications were rated by the agency as to there relative age ranging from new to obsolete for current purposes. A total of 107 applications are currently declining in age or obsolete, 62 of which are custom applications that will need to be upgraded or replaced in the near to immediate future.

Software lifecycle is predicated on the type of software and hardware platform being used. Any one of the following factors my require the replacement or updating of software; hardware equipment changes, operating system changes, user needs, manufacture updating and terminating support for older versions. At a minimum, operating system software upgrades should be timed to coincide with normal hardware replacement or when applications or middleware are undergoing a major upgrade.

Agencies will need to address lifecycle management of their software applications in their agency IT plan.

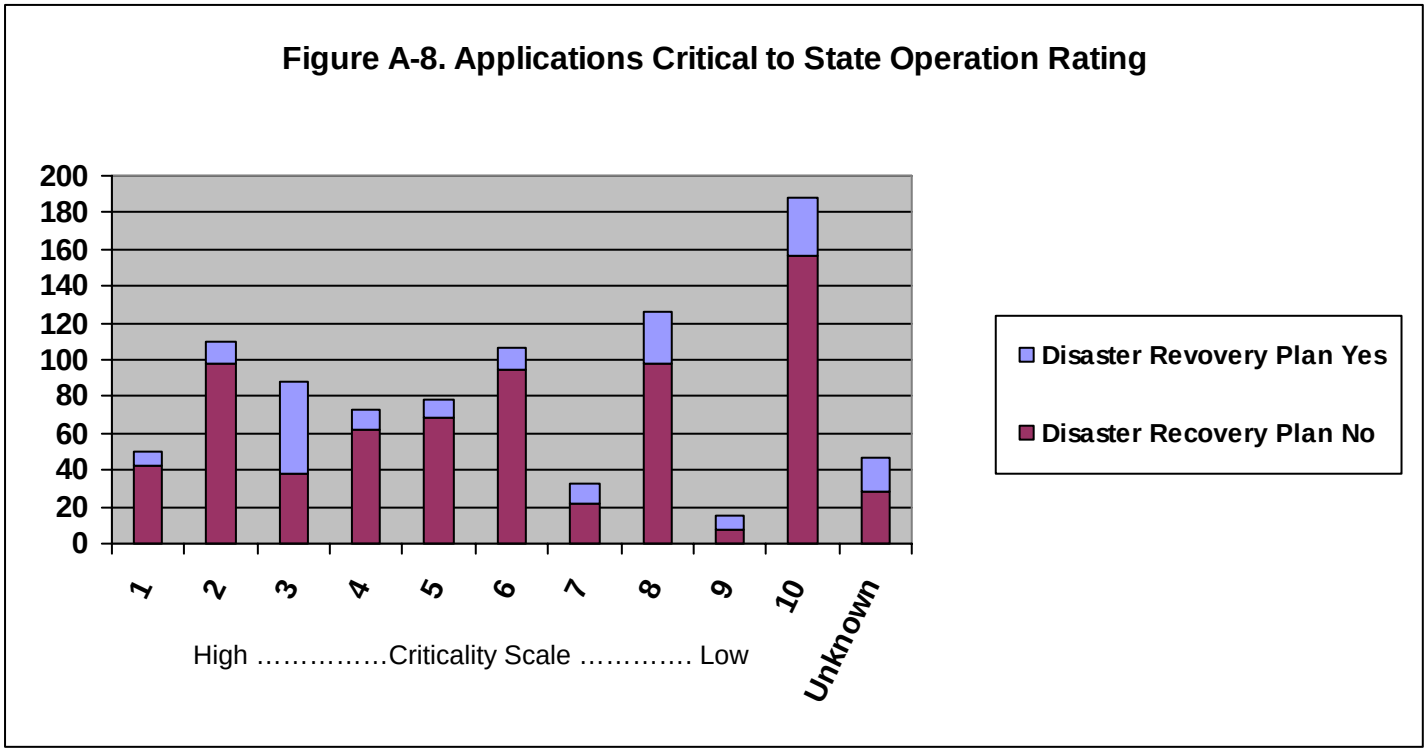
Figure A-7 illustrates the breakdown of applications by type and by age.

Appendix A – IT Inventory Analysis
Application Analysis

Applications by State Criticality

	High					Criticality				Low
	1	2	3	4	5	6	7	8	9	10
Disaster Recovery Yes	8	12	50	11	9	12	11	28	7	31
Disaster Recovery No	42	98	38	62	69	95	22	98	8	157
Total	50	110	88	73	78	107	33	126	15	188

	unknown	Total	Percent
Disaster Recovery Yes	19	198	22%
Disaster Recovery No	28	717	78%
Total	47	915	

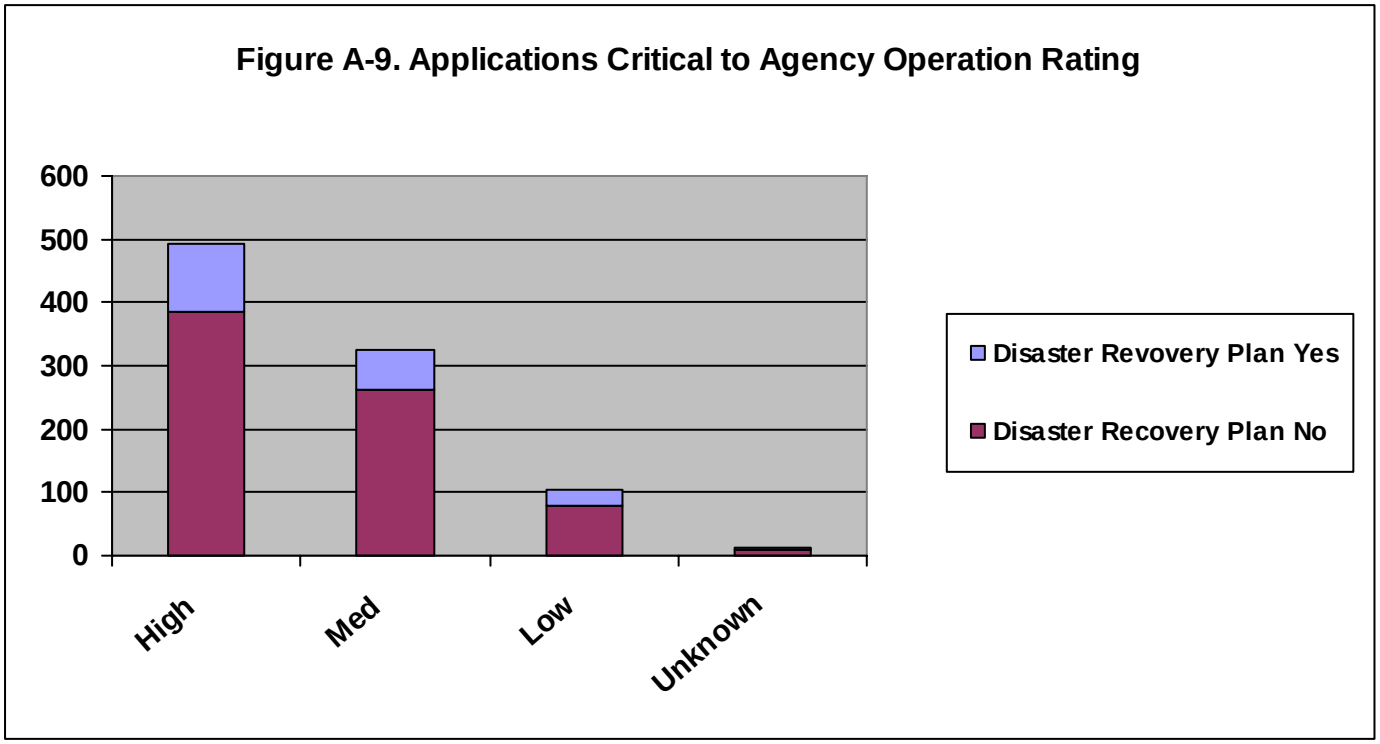


Discussion: Applications were also rated for their level of criticality to the continued operation of state businesses. The agencies were asked to indicate whether the application has a disaster recovery plan in place. A total of 78% of applications do **not** have a disaster recovery plan, 240 of which are highly critical to state operations.

Figure A-8 illustrates the breakdown of applications critical to state operations with an indication of the status of their recovery plan. A ranking of 1 on the chart indicates that these applications are considered most critical; a ranking of 10 indicated that they are least critical.

Appendix A – IT Inventory Analysis
Application Analysis

Applications by Criticality		Agency Critical						Disaster Recovery	
	Age	High	Med	Low	Unknown	Total	Yes	No	Total
	New	128	117	47	7	**299**	62	237	**299**
	Mature	280	175	42	1	**498**	115	383	**498**
	Mature	56	20	10	0	**86**	10	76	**86**
	Obsolete	9	10	3	0	**22**	11	11	**22**
	Unknown	3	2	1	4	**10**	0	10	**10**
	Total	**476**	**324**	**103**	**12**	**915**	**198**	**717**	**915**
Disaster Recovery	**Yes**	108	62	25	3	**198**	**22%**		
	No	368	262	78	9	**717**	**78%**		



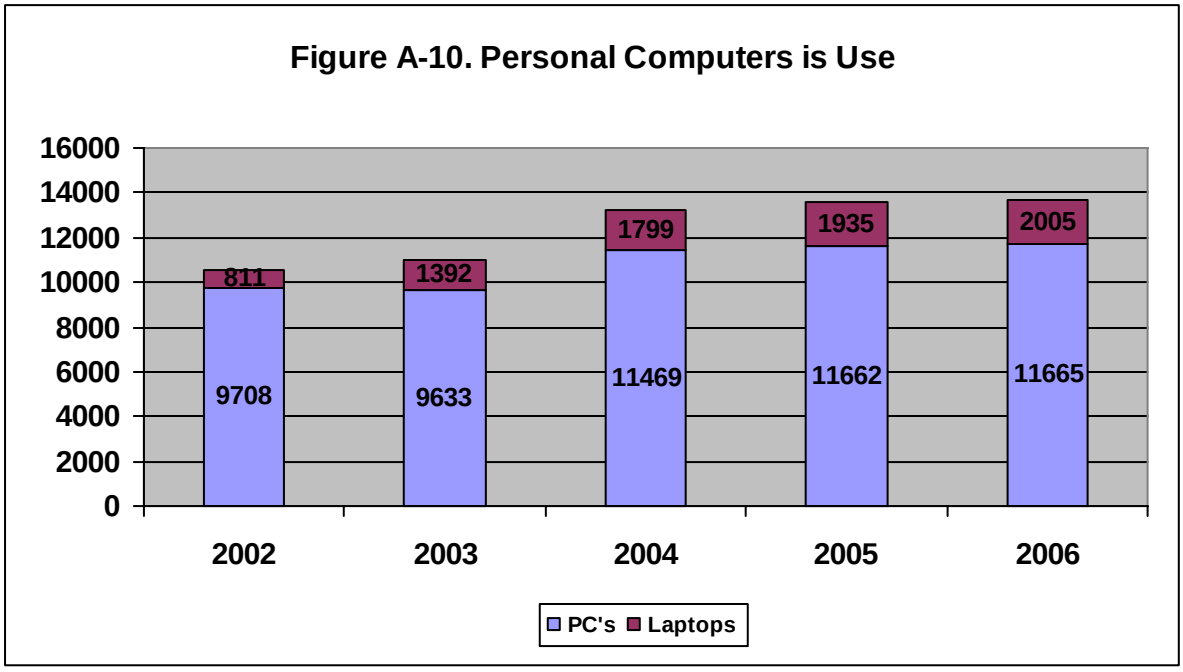
Discussion: The applications were also rated for their level of criticality to the continued operation of the agency business. A scale of high, medium, or low was used. 66% of the applications rates as critical to agency operation do **not** have a disaster recovery plan.

Figure A-9 illustrates the agency rating, along with the status of the disaster recover plan.

Finally, the applications were assessed determine if they were accessed via the web and whether they are available for public access. In total 454 or 49.6% were reported to be accessed via the web, and 332 or 36.2% were reported to be available for the public.

Appendix A – IT Inventory Analysis
PC Inventory Analysis

Personal Computers in Use								
FISCAL YEAR	PC's Purchased	PC's Retired	PC's In Service	Laptops Purchased	Laptops Retired	Laptops In Service	PC Avg Replace	Laptop Avg Replace
2002			9708			811		
2003	2627	2702	9633	1258	677	1392	27%	90%
2004	4239	2403	11469	1017	610	1799	37%	57%
2005	2297	2104	11662	336	200	1935	20%	17%
2006	2193	2190	11665	359	289	2005	19%	18%
							26%	**46%**



Discussion: Montana currently has 13,670 Personal Computers in service, with 2005 or 14.6% of those being laptop computers. There has been a 3% Increase in the number of Personal Computers from 2004 to 2006. The state's PC-standard is based on IBM and IBM-compatible equipment and selected software. The State has a term contract with IBM, Dell, and HP for PC acquisitions. While there has only been a moderate growth in the number of PC's, the number of Laptops is increasing while the overall number of desktop PC's remained stagnant during 2005 and 2006.

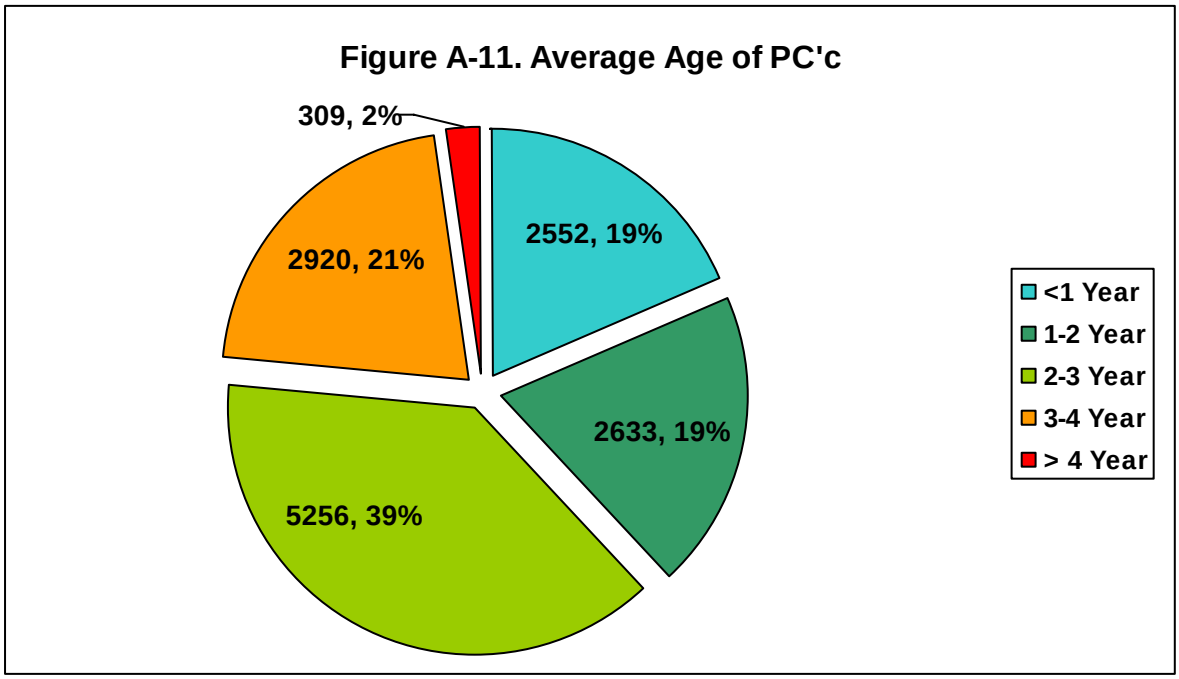
The state's policy for PC replacement is once every four years, which is consistent with industry and government practices. The actual PC replacement rate for FY05 and FY06 averaged only 19% for desktop computers and 17.5% for laptop computers.

Figure A-10 illustrates how the number of personal computers in use by the state has increased over time.

Appendix A – IT Inventory Analysis
PC Inventory Analysis

Average Age of PC's

	Less Than 1 Year	1-2 Years	2-3 Years	3-4 Years	over 4 Years	Net Increase over 4 Years	Total
PC's	2193	2297	4239	2627	309	1957	11665
Laptop	359	336	1017	293	0	1194	2005
Total	2552	2633	5256	2920	309	3151	13670



Discussion: Agencies will need to replace a minimum of 3,229 personal computers within the next biennium in order to mainline the state's policy for PC replacement of once every four years. At a cost of around $1.5K per unit, that represents a projected investment of $4.8M. Most agencies have not maintained the 25% a year replacement schedule and they will therefore require a larger capital expenditure in order to be current with state policy.

Beginning is January 2006, new computers will start shipping with the new Windows Vista operating system and we can expect to see changes in the associated office suites. The state will be face with evaluating upgrades and enterprise compatibility issues.

Figure A-11 illustrates the distribution of personal computers by age.

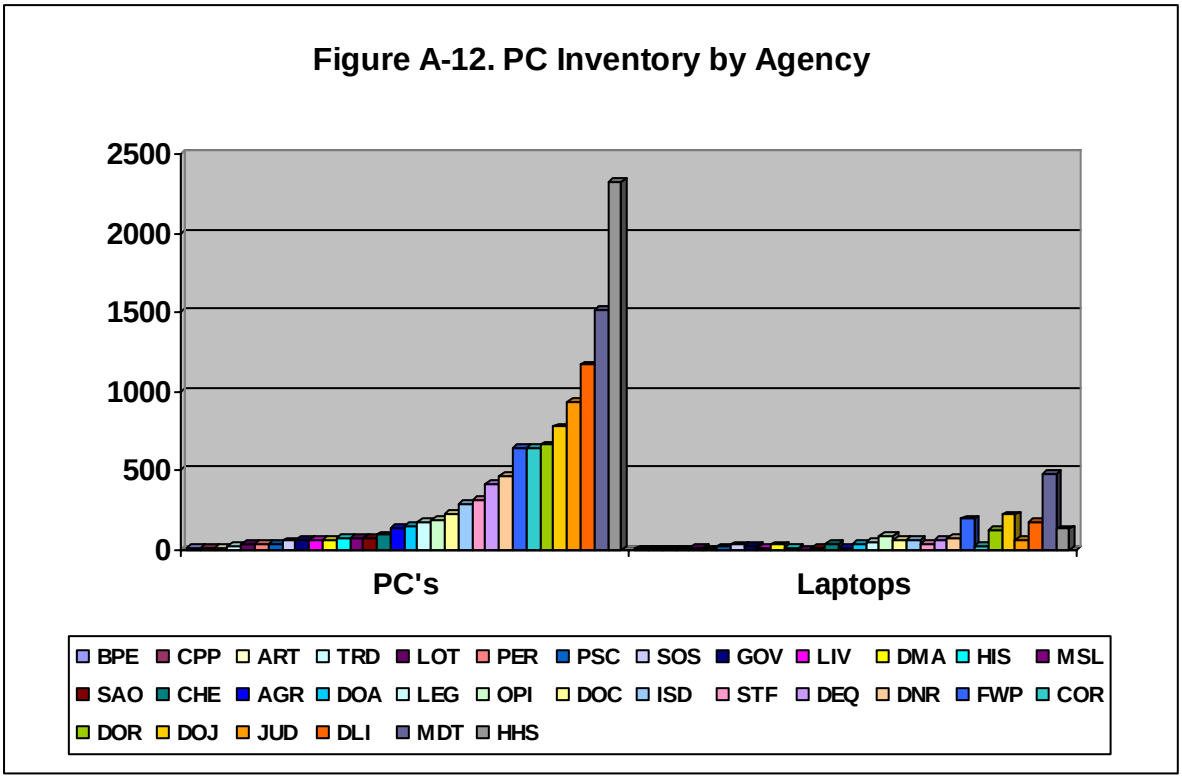
Appendix A – IT Inventory Analysis
PC Inventory Analysis

SFY 06 Inventory by Agency

AGENCY	PC's Purchased	PC's Retired	PC's In Service	Laptops Purchased	Laptops Retired	Laptops In Service	PC Avg Replace	Laptop Avg Replace
BPE	1	1	4	0	0	1	25%	0%
CPP	2	2	5	0	0	1	40%	0%
ART	3	2	9	1	0	3	33%	33%
TRD	2	3	18	0	0	1	11%	0%
LOT	8	8	32	0	0	10	25%	0%
PER	8	8	34	2	2	3	24%	67%
PSC	22	24	35	8	1	15	63%	53%
SOS	36	0	51	25	0	26	71%	96%
GOV	17	19	54	13	4	19	31%	68%
LIV	16	16	62	1	1	8	26%	13%
DMA	32	32	63	0	0	27	51%	0%
HIS	6	10	67	2	0	6	9%	33%
MSL	0	0	69	2	0	0	0%	0%
SAO	15	15	72	2	0	6	21%	33%
CHE	29	39	89	8	7	33	33%	24%
AGR	31	5	139	0	2	12	22%	0%
DOA	0	0	147	0	0	37	0%	0%
LEG	175	0	175	0	70	50	100%	0%
OPI	39	37	188	28	18	85	21%	33%
DOC	35	58	223	9	18	58	16%	16%
ISD	43	90	285	20	3	54	15%	37%
STF	60	60	312	6	6	35	19%	17%
DEQ	37	60	409	11	0	56	9%	20%
DNR	54	40	461	26	10	76	12%	34%
FWP	198	107	638	60	31	191	31%	31%
COR	224	200	640	7	5	25	35%	28%
DOR	0	104	660	0	6	122	0%	0%
DOJ	117	105	776	59	53	218	15%	27%
JUD	300	300	935	18	18	58	32%	31%
DLI	105	120	1167	17	28	168	9%	10%
MDT	28	192	1514	16	0	474	2%	3%
HHS	550	533	2332	18	6	127	24%	14%
Total	2193	2190	11665	359	289	2005	**19%**	**18%**

See chart on following page.

Appendix A – IT Inventory Analysis
PC Inventory Analysis



Discussion: The agencies with the largest number of personal computers are HHS, MDT, DLI, JUD and DOJ. MDT has the largest number of laptops due to the extensive amount of field work done by the agency. As indicated on the previous page, not all agencies are on a 25% @ year replacement cycle for personal computer.

Figure A-12 illustrates the distribution of personal computers by agency.

Appendix B1 - Agency IT Staffing

Agency	central IT organization *	non-central IT organization *	Total State IT Staff *	Contracted IT FTEs *	Total Agency IT FTEs *	Total Agency FTEs	IT Percentage of Agency Staff
Legislative Branch	12.00	1.00	13.00	1.00	14.00	125.00	10.4%
Consumer Counsel			0.00		0.00	5.00	0.0%
Judicial Branch	16.00		16.00	0.50	16.50	408.00	3.9%
Governor's Office	2.00		2.00		2.00	59.07	3.4%
Secretary of State's Office	6.00		6.00	2.00	8.00	51.25	11.7%
Commissioner of Political Practices	1.00		1.00	0.25	1.25	5.00	20.0%
State Auditor's Office	2.50		2.50		2.50	69.50	3.6%
Office of Public Instruction	23.15	1.00	24.15		24.15	162.06	14.9%
Dept of Justice	55.00		55.00	3.00	58.00	720.00	7.6%
Public Service Regulation	2.00		2.00		2.00	39.00	5.1%
Commissioner of Higher Education	5.00		5.00		5.00	105.80	4.7%
Montana Arts Council	1.00		1.00		1.00	7.00	14.3%
Library Commission	10.50	2.50	13.00	0.25	13.25	39.75	32.7%
Montana Historical Society	1.00	0.25	1.25		1.25	60.00	2.1%
Dept of Fish, Wildlife & Parks	36.00		36.00	6.50	42.50	700.00	5.1%
Dept of Environmental Quality	27.00	10.00	37.00	5.00	42.00	432.66	8.6%
Dept of Transportation	79.00	32.00	111.00	6.00	117.00	2306.70	4.8%
Dept of Livestock	3.00		3.00		3.00	135.99	2.2%
Dept of Natural Resources & Conser.	11.00	8.00	19.00		19.00	555.00	3.4%
Dept of Revenue	26.00	1.00	27.00	1.00	28.00	620.00	4.4%
Dept of Administration (excluding ITSD)	42.00	11.50	53.50	4.50	58.00	268.33	19.9%
Dept of Administration (ITSD)	173.75		173.75	1.00	174.75	189.75	91.6%
State Fund	51.00		51.00	14.00	65.00	295.00	17.3%
Public Employees Retirement System	6.00		6.00	3.00	9.00	35.00	17.1%
Teachers Retirement System	2.00		2.00	1.00	3.00	17.00	11.8%
Dept of Agriculture	3.00	2.00	5.00	0.46	5.46	116.04	4.3%
Dept of Corrections	22.00		22.00		22.00	1169.39	1.9%
Dept of Commerce	9.50	3.50	13.00	5.75	18.75	196.91	6.6%
Dept of Labor & Industry	58.55		58.55	7.85	66.40	900.00	6.5%
Dept of Military Affairs	4.00		4.00		4.00	178.00	2.2%
Dept of Public Health & Human Services	60.00	19.00	79.00	159.35	238.35	2821.04	2.8%
Total	751	92	843	222.41	1,065.11	12,793.24	6.6%

* Numbers obtained from agency IT plans submitted in June 2006.

a. The Legislative Branch supports an additional 70 temporary staff in odd numbered years.

b. The Judicial Branch supports an additional 525 city/county employees.

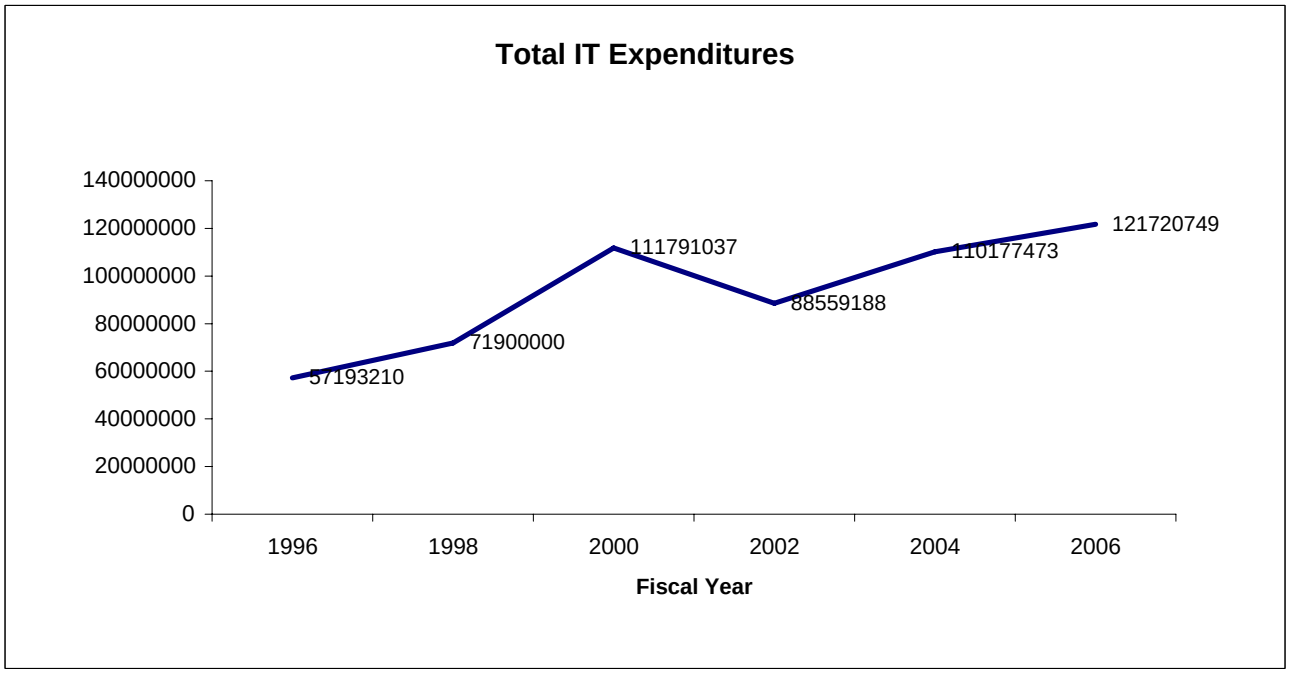
Appendix B2 - IT Job Codes

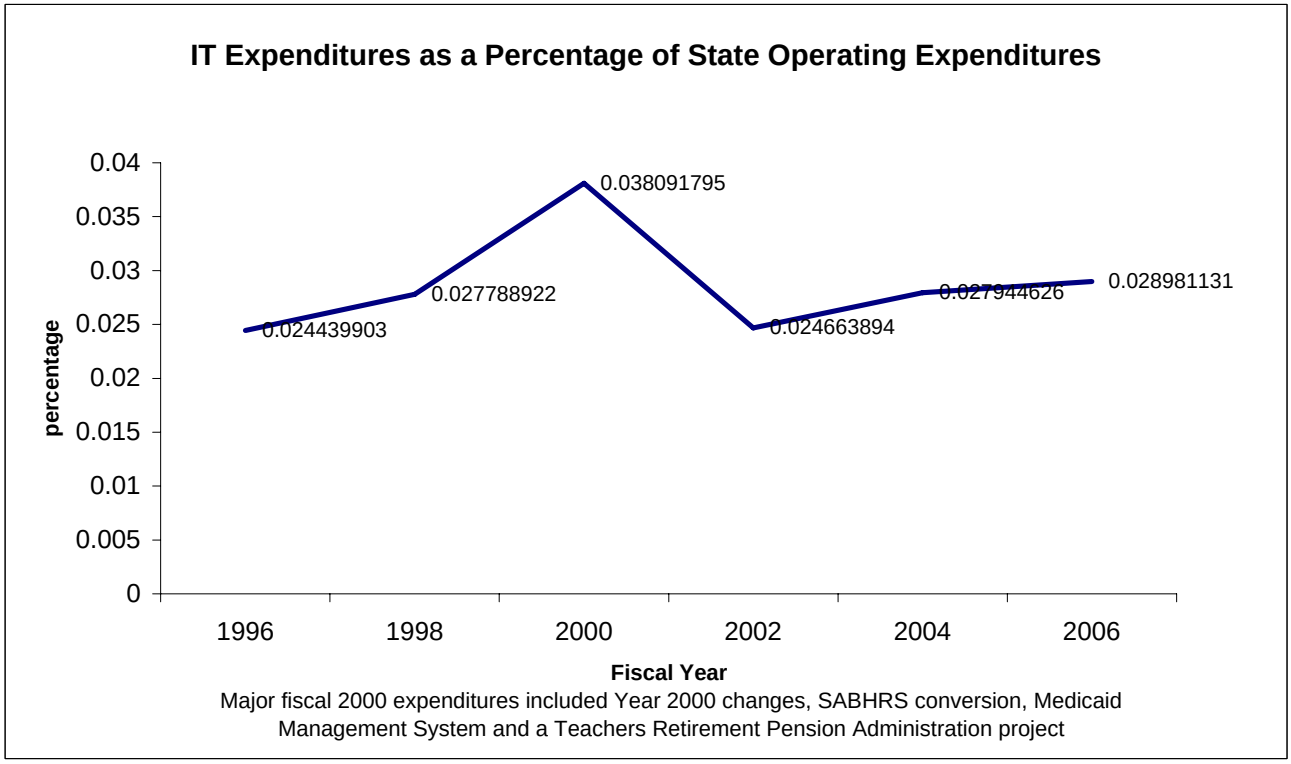
Job class codes	Job Title	A. Number of authorized FTEs within agency	B. Number of FTEs performing IT outside of IT units	C. Number of contracted IT FTEs	D. Total (A+B+C)
1132nn	IT manager	66.55	2	7.82	76.37
15111n	IT Supervisor	49	1	19.3	69.3
1512nn	Programmer	41.75	6	16.35	64.1
15123n	QA analyst	6	0	8.1	14.1
15131n	Systems Engineer	30	0	0	30
15133n	Application Engineer	32.5	0	3	35.5
1514nn	Support Technician,	13	6	4.85	23.85
1514nn	Support Specialist	52	21	15.5	88.5
151133A	Website Engineer	9.9	0	2.75	12.65
15133B	Programmer Analyst	43.5	2	35.09	80.59
15142B	Help Desk Analyst	12.25	0	12.5	24.75
15142C	IT Methodology Technician	0	0	0	0
15142E	Tech Support Analyst	2	0.5	0	2.5
1515nn	Systems Analyst	95	16.5	71.31	182.81
1516nn	Database Analyst	29	7	2.06	38.06
1517nn	Network Administrator	52	2	2.51	56.51
15173n	Security Specialist	11	0	0	11
1518nn	Network Systems Analyst	42	3	4.02	49.02
15183n	Telecommunications Specialist	22	0	0	22
15183B	Network Engineer	9.5	0	0	9.5
15193D	Systems Architect	1	0	0	1
43902n	Data Center Operator	3.5	0	5.75	9.25
4391nn	Computer Operator	8	0	4	12
1318nn	Management Analyst	17.5	4	2	23.5
	All Others	34	19.75	4	57.75
	Total	683.95	90.75	220.91	994.61

a. Statistics were gathered from agency IT plans developed during the spring of 2006.

b. The legislative branch, judicial branch, and Office of Public Defender are not included.

Appendix C - Agency IT Expenditures for 2006





Appendix D - Agency IT Expenditures for Fiscal 2006

Agency	A State IT Staff	B Contracted Services	A+B=C Total IT Staffing	D IT Expenditures (non-personnel)	C+D=E Total IT Expenditures	F Agency Operating Expenditures	E/F=G IT Percentage of all Expenditures
Legislative Branch	$718,243	$145,289	$863,532	$973,098	$1,836,630	$11,459,843	16.03%
Consumer Counsel				$18,609	$18,609	$1,114,375	1.67%
Judicial Branch	$825,219	$197,998	$1,023,217	$2,663,164	$3,686,381	$43,207,855	8.53%
Governor's Office	$41,666	$24,076	$65,742	$233,789	$299,531	$5,423,279	5.52%
Secretary of State's Office	$199,200	$1,817,927	$2,017,127	$1,431,390	$3,448,517	$6,797,621	50.73%
Commissioner of Political Practices		$4,120	$4,120	$12,795	$16,915	$304,745	5.55%
State Auditor's Office	$161,000		$161,000	$179,309	$340,309	$6,857,651	4.96%
Office of Public Instruction	$1,286,208		$1,286,208	$764,729	$2,050,937	$19,262,031	10.65%
Dept of Justice	$2,293,454	$4,695,140	$6,988,594	$4,776,783	$11,765,377	$71,115,882	16.54%
Public Service Regulation	$116,784		$116,784	$140,530	$257,314	$2,912,448	8.83%
Board of Public Education				$9,901	$9,901	$349,848	2.83%
Commissioner of Higher Education	$61,237		$61,237	$241,446	$302,683	$15,990,566	1.89%
Ag Experiment Station		$10,011	$10,011	$165,803	$175,814	$15,723,322	1.12%
Extension Service		$3,484	$3,484	$207,158	$210,642	$11,456,022	1.84%
Forestry & Conservation Exper. Station				$25,964	$25,964	$990,013	2.62%
Bureau of Mines	$115,166		$115,166	$60,977	$176,143	$2,344,916	7.51%
School for the Deaf & Blind	$27,993	$12,707	$40,700	$67,003	$107,703	$5,191,145	2.07%
Montana Arts Council	$53,152		$53,152	$40,310	$93,462	$774,479	12.07%
Library Commission	$782,938	$9,976	$792,914	$234,468	$1,027,382	$3,621,620	28.37%
Montana Historical Society	$23,653	$4,508	$28,161	$205,486	$233,647	$5,333,396	4.38%
Dept of Fish, Wildlife & Parks	$1,800,932	$407,470	$2,208,402	$1,920,899	$4,129,301	$67,255,789	6.14%
Dept of Environmental Quality	$1,864,463	$295,863	$2,160,326	$1,367,172	$3,527,498	$56,108,642	6.29%
Dept of Transportation	$4,722,289	$1,776,314	$6,498,603	$8,078,916	$14,577,519	$526,370,474	2.77%
Dept of Livestock	$147,735	$236	$147,971	$281,238	$429,209	$8,933,946	4.80%
Dept of Natural Resources & Conser.	$724,757	$5,272	$730,029	$1,608,951	$2,338,980	$52,748,226	4.43%
Dept of Revenue	$1,534,236	$2,961,018	$4,495,254	$3,787,972	$8,283,226	$81,430,427	10.17%
Dept of Administration (excluding ITSD)	$610,856	$400,556	$1,011,412	$1,445,666	$2,457,078	$76,250,350	3.22%
State Fund	$3,436,289	$53,780	$3,490,069	$4,541,937	$8,032,006	$49,025,601	16.38%
Public Employees Retirement System	$307,361	$81	$307,442	$383,392	$690,834	$3,394,294	20.35%
Teachers Retirement System	$129,612	$117,118	$246,730	$124,935	$371,665	$1,563,672	23.77%
Office of Public Defender	$50,932		$50,932	$192,957	$243,889	$753,162	32.38%
Dept of Agriculture	$241,962	$94,081	$336,043	$343,671	$679,714	$10,767,625	6.31%
Dept of Corrections	$1,105,616		$1,105,616	$2,056,289	$3,161,905	$137,580,861	2.30%
Dept of Commerce	$705,000	$8,421	$713,421	$1,354,129	$2,067,550	$67,411,274	3.07%
Dept of Labor & Industry	$3,450,855	$1,349,710	$4,800,565	$4,569,782	$9,370,347	$61,111,328	15.33%
Dept of Military Affairs	$206,430	$2,616	$209,046	$2,338,785	$2,547,831	$22,866,514	11.14%
Dept of Public Health & Human Services	$4,264,841	$17,906,639	$22,171,480	$10,556,855	$32,728,335	$214,195,901	15.28%
Total	$32,010,080	$32,304,411	$64,314,491	$57,406,258	$121,720,749	$1,667,999,143	7.30%
Dept of Administration (ITSD only)	$11,459,255	$2,256,036	$13,715,291	$20,201,533	$33,916,823	$35,587,485	95.31%

Notes

a. DOA/ITSD is separate since some agency IT expenses are charges paid to ITSD. Including ITSD in the total double counts all agency expenditures paid to ITSD.

b. Not all agencies code IT consulting sevices with SABHRS code 62136. Some use 62102, consulting and professional services. Therefore column B, contracted services, may be understated.

Appendix E – IT Budget Requests

2009 Biennial Information Technology Budget Requests

Judicial Branch NP-1002- Information Technology

This new budget proposal seeks funding to continue the Judicial Branch's efforts to modernize Montana courts in a manner that meets the unique needs of the Judicial Branch while at the same time conforms to State of Montana information technology standards. This one time only funding proposal of $3,935,000 funds court technology improvement projects best characterized as "case management improvements" and "court room technology improvements." The goals of the court technology improvement project are:

Case Management Improvements:

- Complete the procurement and installation of a common case management system including a document imaging and jury management subsystem in Montana's District Courts and Courts of Limited Jurisdiction.
- Provide a single web portal and integrated system for the electronic filing of civil and criminal cases in Montana courts.

Courtroom Technology Improvements

- Maintain current technology and upgrade Montana's busiest District Court courtrooms with quality court recording systems, sound systems, and interactive video and digital evidence display systems.

The Judicial Branch has worked with staff from the Department of Administration's Information Technology Services Division on this proposal as it relies heavily on the State's telecommunications network - SummitNet II and the State's document and content management system "FileNet." These costs are included in the proposal. On-going expenses are anticipated for interactive video transport and document imaging storage – both of these costs are determined by rates established by the Department of Administration at the beginning of each biennium.

Judicial Branch PL-1007- IT Software Maintenance

This proposal seeks $260,723 of general fund support in each year of biennium for maintenance of the FullCourt Case Management System in the Courts of Limited Jurisdiction and maintenance for the C-Track Appellate Case Management system for the Supreme Court. The Office of the Court Administrator currently pays $540 per license (seat) for maintenance of the FullCourt Case Management System in the Courts of Limited Jurisdiction. By July 1, 2006, there will be 317 licenses in use at an annual maintenance cost of $171,180 per year. The Office of the Court Administrator is piloting FullCourt in the District Courts. The vendor (JSI) has offered an enterprise licensing agreement for Montana. If an agreement is made with JSI, the annual maintenance for all Montana courts would be $315,000 per year. This proposal requests $156,723 ($315,000-$158,277) for this software maintenance cost increase. FullCourt maintenance costs are estimated at $315,000 per year. C-Track maintenance costs are estimated at $104,000 per year. These costs are off-set by the $158,277 in the Court IT 2006 base budget for FullCourt license maintenance.

Secretary of State NP-2- Agency Technology Projects

The Office of the Secretary of State has initiated three technology projects that focus on improving the efficiency of services now provided and expanding the services provided to allow for access to a larger array of online services and public information. The Administrative Rules Automation Initiative project will allow for more timely updates of the Administrative Rules of Montana, improve public access to online products, and will provide for a more streamlined rule submittal process for state agencies. The Online Candidate Filing project will allow candidates to conveniently file for office online. The Business Services project will replace the existing mainframe systems and create the opportunity to expand online services for the public and streamline internal processes. The estimated cost of operation and maintenance in future years is $100,000 per year.

Appendix E – IT Budget Requests

Office of Public Instruction NP-6- K12 Education Data System

This data system will continue to improve data collections practices and data quality about K-12 students and be enhanced to include data on educators. Better data on students and staffing assists with better policy decision about student needs and will aid in meeting local, state and federal requirements. Continuation, enhancement, and expansion of the K-12 Education Data System will cost $3,458,947 in the 2009 biennium and provide 4.00 FTE to the Office of Public Instruction (OPI) for the operation and maintenance of the systems. The OPI will focus on the following:

- Enhancements of the existing e-grants system to include submission, review, and tracking of school district state and federal education grant applications. OPI will also incorporate the electronic grants management tool into the five year comprehensive education plan.
- Expansion will include data collection on school staffing to provide better information for decisions about recruitment and retention of highly qualified teachers in the 2009 biennium.
- This funding also provides $3.25 per student enrolled in each district to help districts cover the cost of exchanging data between the district and the state data systems for an annual cost of $475,000.
- The OPI and the Office of Commissioner of Higher Education (OCHE) are working together to coordinate data systems that link students' educational opportunities in K-12 with their successes in college and to link teacher preparation programs with success in the K-12 classroom.

This request supports the AIM (Assessment in Montana) and E-Grants systems under OPI's Montana Statewide Accountability System for Education (MontSASE) data system umbrella. Contracts with vendors outside of state government have been signed to provide data services. Expansion will include data collection on school staffing to provide better information for decisions about recruitment and retention of highly qualified teachers in the 2009 biennium. Funding will be needed for on-going contracts with vendors currently estimated at $609,000 and for personal services and operating budgets for 4 FTE at OPI, including the OPI project manager, data resource administrator, database administrator, and student records manager of $507,000. OPI also proposes to allocate $3.25 per student totaling $475,000 annually to assist schools with the exchange of data between local district systems and the state education data systems.

Department of Justice 2905-PL- Additional Spending Authority for IJIS Broker

The Dept of Justice is requesting $750,000 as a biennial appropriation of state special revenue authority for the Integrated Justice Information System (IJIS) Broker project. The 2005 legislature appropriated $250,000 to begin the project. The IJIS Broker is the first and biggest step in integrating the state justice systems into one virtual system. This system will allow all state, local, and federal agencies to connect with each other at a minimal cost to the agencies. This includes but is not limited to: CJIN, Intel systems, RMS systems, NCIC, NCIS, CHRS, Electronic Dispositions, Electronic Tickets, Driver Photos, BIO Metrics, etc. This will allow each Justice agency to share information without having to replace existing systems. It is not anticipated that any other state agency will be impacted by this proposal. Costs of operation and maintenance are to be taken out of the current operational budgets of the agency.

Department of Justice 2907-PL- Increase Spending Authority for CJIN Refresh

A refresh of the Criminal Justice Information Network (CJIN) is conducted every four years. A refresh was not conducted in FY 2006 and the authority was not in the agency's base. The Department of Justice needs to increase the state special revenue spending authority for the biennium to accomplish this task. The CJIN refresh is much like the state computer replacement cycle. It allows the Criminal Justice Information Network the ability to utilize technology to

exchange information between local, state, and federal agencies. This is the federal network and falls under their span of control.

- To upgrade and replace the older non-supported equipment.
- The system success will be measured through the successful implementation and testing of the system.
- An RFP, Project Plan, ITPR, and other issues must be completed starting in November of 2007.
- The work will be done by department IT staff.

It is not anticipated that any other state agency will be impacted by this proposal. The refresh is done on a four-year cycle and is paid for out of state special. The CJIN network collects fees and this is used to upgrade and maintain the network.

Commissioner of Higher Education NP-1051- Improve Transferability and Student Data

For several years and sometimes in very strong terms, policymakers in Montana have been urging the Montana University System (MUS) to do something to improve transferability of coursework. The Office of Public Instruction (OPI) and the Office of Commissioner of Higher Education (OCHE) are working together to coordinate data systems that link students' educational opportunities in K-12 with their successes in college and to link teacher preparation programs with success in the K-12 classroom. This application addresses those concerns with a system that will transfer student's coursework to the degree requirements at his/her new institution. The two primary goals of this initiative are:

1) Improved transferability in the Montana University System, focusing on academic programs or course offerings that are available at several campuses, and programs that has the most transfer students,

2) The development of a comprehensive and more sophisticated database for the Montana University System, and the integration of that database with other state agency data Systems.

The cost of the project is $1,545,000 general fund OTO. Impacts would be to the Office of Public Instruction Montana Statewide Accountability System for Education (MontSASE) and the Department of Labor and Industry Unemployment Insurance Wage Database. A breakout of costs & resources is $350,000 OTO for development of a data warehouse, and $500,000 for Faculty Program Council expenses. Ongoing costs of $625,000 will sustain and support 2.5 FTE, operating expenses and faculty council expenses, facilitation of dual enrollment $70,000.

Department of Environmental Quality PL-1001- Business Process Improvement

DEQ proposes to analyze its existing business processes for accounts receivable and subdivision permitting application and review to identify and implement improvements in quality of service, efficiency, timeliness, consistency, and cost-effectiveness. Specific focus areas are accounts receivable and subdivision permit application and review. The DEQ was formed from parts of three former departments, each with a different way of doing business. This inconsistency sometimes leads to costly inefficiencies and delayed revenue collection. It is not anticipated that this project will affect or cause a financial impact on any other state agency. This one-time-only general fund budget request is for $1,000,000 in FY 2008 and $800,000 in FY 2009. Future maintenance costs are anticipated to be approximately the same as current maintenance costs; estimated at $75,000 per year for all enterprise systems.

Department of Environmental Quality PL-1003- Central Management Information Technology Grants

The budget request of $271,363 in FY 2008 and $271,219 in FY 2009 federal special revenue is recommended for upgrading DEQ's databases and hardware to achieve the long-term goal of

participating in the Environmental Information Network. The environmental information will be made available to the Environmental Protection Agency and relevant organizations especially to assist in decision making in the event of national disasters and terrorist activities. The hardware and software account for the majority of the costs, which the grant covers.

This project could have an impact on other state agencies including: Department of Justice, Department of Public Health and Human Services, and the Montana State Library. However, it is not anticipated that the project will cause a significant financial impact on any of these agencies. Cost may actually be less in future years because DEQ won't have to re-enter data. Equipment replacement every four years equates to approximately $1,500 per year.

Department of Transportation PL- 1502- ACS Contract
This project is necessary to allow MDT's Motor Carrier Services Division to fulfill its responsibilities to the traveling public by continuing the contract with Affiliated Computer Services (ACS) for a variety of IT-based computer systems associated with permitting and compliance of the commercial motor carriers operating in Montana. It is not anticipated that this project will impact any other state agencies.

The total cost of the ACS systems for FY2008 & FY2009 are estimated to be $234,449 and $256,151 respectively. It requires approximately 0.5 FTE to manage the contract and system enhancements with ACS. The cost of this proposal for the ACS contract is $490,600 for the biennium of state special revenue. The estimated cost of operation and maintenance of ACS in it's entirety in future years is approximately $700,000 per year.

Department of Transportation PL-1509- IT Equipment Replacement
In the second year of the biennium, the department's Information Services Division anticipates a need to begin replacing some of it's more expensive video equipment, as well as replacing more desktop units than were replaced in the base year. This request is for $461,122 of highway state special revenue for the biennium. All of MDT's IT applications are impacted by this project in one way or another but there is no anticipated impact to any other state agencies.

Department of Transportation PL-1512-IT Maintenance Costs
This project allows MDT's Information Services Division to continue the maintenance costs on a wide variety of IT hardware and software. It is not anticipated that systems in any other state agency will be impacted. Internal MDT systems that will be impact include: Imageviewer Van software, ArcView software, computer imaging software, Oracle, Classroom software, Altiris PC management software, Wise packaging software, SUSE software, OmniStar software, Casewise software, XML software, and COOP software.

Department of Natural Resources and Conservation PL-2101- GIS Enterprise Project
This will enable the DNRC to implement an Enterprise GIS providing an organization-wide approach that facilitates the integration, implementation, operation, and management of tabular and spatial information. The budget request is for state special revenue of $195,164 in FY 2008 and $180,263 in FY 2009. This provides many benefits and opportunities to an organization by streamlining work processes; allowing integration of data and systems; improving accessibility and data management; reducing duplication of efforts and costs (hardware, software & personnel); rapid automated updating; and leveraging of an organization's data for decision-making, and analysis. A team of IT staff and GIS staff from ITSD and DNRC are working on a plan for hardware and software to support GIS within the Water Resources Division of DNRC. The DNRC GIS Coordinator and GIS specialists in DNRC work with ITSD staff on deployment of the hardware and software in the ITSD data center. Coordination will be provided by a project manager in ITSD and the IT Bureau Chief in DNRC. Both the Department of Administration and Natural Resources Information System (NRIS) would be involved in the Enterprise approach. A statewide license will be investigated, but at a minimum, a Department license will be pursued.

Savings are unknown at this time. Annual maintenance costs are estimated between $100,000 and $200,000 depending on how a statewide license can be addressed.

Department of Natural Resources and Conservation NP-2203- O&G Public Assess Data System

DNRC proposes $212,669 state special revenue per year of the 2009 biennium to continue a historical records acquisition project started in the 2005 biennium. The project involves the scanning and microfilming of historical records and making them available for internet or other public accessibility. The FTE will scan and index historical documents housed in the Billings office while the majority of the operating budget is to contract with the Secretary of State's Office to microfilm historical records housed in the Helena office. There are no impacts anticipated to other agencies. This project is being done in-house at Oil and Gas Division and through the Secretary of State's office which are already doing the project. Once all the historical records are scanned and/or filmed, there will be an FTE cost (approximately $50,000 per year including benefits) to maintain the database and add new records.

Department of Natural Resources and Conservation PL-2401- Water Resources Operating Adjustment

This proposal requests an increase of $153,543 general fund and $312,127 in state special revenue authority for the 2009 biennium for operating adjustments. The request includes overtime at the Broadwater hydropower facility, increased contracted services for water right files and adjudication, the Stream Gauging Program, regional and water right adjudication program rent, annualization of operating costs associated with the St. Mary's hydrologist position that was not filled until January 2006, and debt service for repayment of a federal loan for rehabilitation on the Middle Creek Dam. The National Park Service and the Montana Bureau of Mines and Geology may be impacted by this proposal but it is not anticipated that it will cause a significant financial impact on either agency. There should be no additional operations and maintenance costs.

Department of Natural Resources and Conservation NP-3501- Radio Communications

The Executive recommends $257,400 general fund and $132,600 state special revenue each year of the biennium for the conversion to P-25 compliant communications equipment to achieve inter-operability between emergency responders. This would entail replacement of 1000 handheld, mobile radios and base stations, plus 29 repeater sites. Complete conversion will span the next 5 biennium, at a projected cost of $390,000 each year. This request is contingent on passage and approval of LC 0221. Replacement and upgrades would be coordinated with other entities in the consortium. There are no impacts to other agencies anticipated.

Department of Revenue NP-202- Free Electronic Filing

This proposal requests a general fund total of $2,897,904 in FY 2008 and $3,923,500 in FY 2009, of which $2,261,644 in FY 2008 and $3,058,331 in FY 2009 is one-time only, to provide additional e-services, including free electronic filing and Telefile services to the citizens of Montana. This includes funding for 6.00 FTE to administer e-services, funding for filing annual MW3-W2/1099's, funding for filing C-Corp, S-Corp and Partnerships, funding for additional e-payment options, funding for e-services marketing, funding for web based software Taxpayer Access Point (TAP), and funding for free Telefile services.

Approximately 50% of Montana taxpayers file annual individual income tax returns electronically and this proposal will provide more accessible electronic filing and Telefile options to taxpayers who need it. These services will result in more accurate returns and payment processing, faster refunds for taxpayers and/or more current revenue estimates for the state and, in future biennia, improved efficiency and effectiveness of department operations. IT applications for all branches of government that may be impacted are:

1. Many of the e-services to be provided by the department are dependant upon coordination with other partners: IRS for modernized e-file project; Tax Information Group for Electronic Commerce Requirements Standardization (TIGERS) for approval of Extensible Markup Language (XML) schema for specific tax forms; Department of Administration(DOA), Information Technology Services Division (ITSD), for implementation of additional web services in conjunction with modernized e-file and TAP web on-line services, and for implementation of the Interactive Voice Response (IVR) application for Telefile with the state telephone services provider.
2. Tax prep software vendor development and implementation of state tax forms for public use to e-file.
3. Other department priorities impacting business staff and/or developer/technical staff delaying actual implementation.
4. Technical impacts such as software and/or hardware requirements.

It is not anticipated that any other state agencies will be impacted by this proposal. The annual operating and maintenance cost is projected to be $4,570,000 in the next biennium.

Department of Revenue PL-201- Ongoing System Costs

This proposal requests $7,577,036 general fund and $275,000 state special and $79,200 in federal appropriation authority for ongoing costs of existing systems in the 2009 biennium. This includes funding for maintenance and mid-tier costs to ensure the new department computer systems continue to operate, funding to cover the cost of providing the statutorily mandated "New Hire" service, and funding to allow the department to collect the water adjudication fee authorized by the 2005 Legislature. It is not anticipated that this request will cause a financial impact on any other state agency. The annual maintenance and support agreement for the Integrated Revenue Information System (IRIS) is $3.2 million over the biennium and $871,872 for the Property Valuation and Assessment System (PVAS). This cost is for the vendors to maintain and support their systems. Because the IRIS project was on-going during FY 2006, a full year of maintenance costs was not incurred in the base year; only $500,000 was actually incurred during FY 2006 for IRIS maintenance. The PVAS system was in the development stage during FY 2006 and no maintenance costs were incurred.

Department of Administration NP-710- Geographic Coordinate Database

This request is to extend current funds into the next biennium to invest in federal/state/local partnerships to enhance the accuracy of the Geographic Coordinate Database. Federal special revenue authority of $800,000 is requested as a biennial appropriation. Any agency that uses the cadastral database will depend on the accuracy of the information it contains and will be impacted favorably. However, it is not anticipated that this project will cause a financial impact on any other state agency. No annual operational or maintenance expense will be needed once information is in database. Additional funding may be needed to continue to add more information in years to come.

Department of Administration PL-709- Network & Server Investment to Provide 24/7 IT Services

The state has increasing demands to provide 24x7 e-services to citizens. It has become critical for the systems that provide these services to remain operational even when certain components fail or must be taken down for maintenance. These include: the network servers, disk storage, tape backup systems, and uninterruptible power supplies. This proposal is designed to fund high availability in the following areas: Servers - provide more server redundancy through use of clustering and virtualization technology; Disk Storage - implement additional storage area networks (SANs) to allow for disk mirroring between the primary data center and an alternate site; Tape Backup System -implement an additional automated tape library so that backup processing can continue in the event of a failure to the existing ATL; and Uninterruptible Power Supply - install a secondary UPS so that processing can continue uninterrupted even if the primary UPS

fails. Cost of the project is $1,864,000 in proprietary funds; maintenance and supplies are approximately $50K per year. The total estimated cost of this proposal will have to be recovered by all agencies that use the networking and computing environments.

Department of Administration PL-712- Northern Tier Network Expansion
network. The request will provide funding for the communications expenses, equipment and software needed to support a reliable, predictable, secure, and cost-effective network environment. This network exists to support state agencies administrative and business applications, connectivity between state and local governments, and citizen access to e-government services, including public safety and public health services. All state IT applications will be impacted favorably. Ongoing communications and equipment costs may have to be recovered by agencies if general funding is not continued in upcoming bienniums. Estimated cost of operation and maintenance at this time is unknown, but there will be ongoing communication and equipment replacement costs.

Department of Administration NP- 729- Public Safety Radio-Consortium funding
The Information Technology Services Division is requesting a one-time-only, biennial, general fund appropriation of $5,000,000 to support the multi-year build-out of the Interoperability Montana wireless public safety radio system. The funding will permit additional expansion of key public safety radio sites throughout the state and provide limited equipment for local law enforcement, fire and EMS to use the networked communication system.

This request will be combined with federal Homeland Security Funding received during 2006, and expected funding to be applied for 2007, to develop the Interoperability Montana system. The Interoperability Montana Communications Project is a collaboration of local public safety agencies through nine regional consortia, including partnerships with State of Montana and Federal agencies, to enhance and improve communications for everyday emergency response, natural and manmade disasters, and events of national security. All 56 counties and seven Tribal nations, and primary State of Montana radio users are participants in the Interoperable Montana Project. The funding of this proposal is critical for Montana to seek additional federal Homeland Security and other grant funds requiring demonstration of state participation for interoperable communication build-out.

Any agency that will use the Interoperability Montana wireless public safety radio system will be impacted favorably. There are no anticipated costs or impacts to other agencies at this time. The estimated cost of operation and maintenance at this time is unknown.

Department of Administration NP- 730- Public Safety Radio-Interoperability MT Funding
The Information Technology Services Division is requesting a one-time-only general fund appropriation $3,500,000 in FY 2009 to support the deployment of a second, redundant controller and transmission system for the Interoperability Montana wireless public safety radio system. The funding will permit the purchase of additional controlling infrastructure to be placed in the eastern portion of Montana to serve as a backup to main controller in Helena. In addition, digital microwave infrastructure needed to connect the two controllers will be upgraded to meet the needs of this equipment.

Use of the Interoperability Montana radio system by key law enforcement, EMS and fire agencies requires that important equipment be installed to ensure reliable operation of the system. The upgrade of digital microwave capability and the installation of a second master controller will assist in reaching this goal. Any agency that will use the Interoperability Montana wireless public safety radio system will be impacted favorably. Maintenance and operation cost are unknown.

Appendix E – IT Budget Requests

Department of Administration NP- 727 Statewide E 911 Network
Technology Services Division to support a multi-year build-out of the statewide E9-1-1 network. This funding would be used to provide four additional Public Safety Answering Points (PSAPs), and to provide wireless public safety position determining equipment on the Statewide Network in order to provide the location of 9-1-1 calls made from wireless devices. This proposal is a significant project within the Department of Administration Public Safety Services Bureau (PSSB) and allows for the continued development of this ongoing state-of-the-art 9-1-1 system. No other branches of government will be impacted. Estimated cost of operation and maintenance are unknown.

Department of Corrections PL-119- IT Service Upgrade
This request is for hardware, software, and licenses to upgrade existing systems needing replacement, capacity increases for services that are becoming more heavily utilized, and adding redundancy to critical systems. Included in this request is the purchase of two additional servers for the deployment of Citrix, additional user licenses for Citrix, three servers for upgrades to existing Oracle servers, an upgrade to our existing blade enclosure, and additional equipment on the Departments Storage Area Network in order to make it more fault tolerant. Additionally the Department's training lab consisting of 24 work stations, 12 fixed and 12 portable will be at the end of its useful life in FY 2008 and will need to be replaced. The departments AS/400 are aging and will need to be replaced if the applications operating on it are not moved away from it. Currently the departments Offender Management Information System, Restitution collection system, supervision fee collection system, and Justice Acis Query System are running on the AS/400. It is not anticipated that this request will have an impact on any other state agency. This decision package request is for $300,000 general fund with $30,000 estimated for operation and maintenance.

Department of Corrections NP-120- Interoperable Communication Project
The vast majority of the ability to communicate with land mobile radios for the department comes from the authorization of local governments and 9-1-1 Centers across the state. Changes in this industry have necessitated this request to replace the existing radios and communications infrastructure throughout the department and its institutions. This general fund one-time-only biennial request is for $2,622,424. It is not anticipated that any other state agency will be impacted by this proposal. Project costs are for installation and replacement of existing base, mobile and portable radios stations for probation and parole officers/offices and all DOC facilities, (adult/juvenile). Infrastructure updates will be to towers, radio shelters and antennas. Maintenance costs will be taken out of the current operational budgets for each program.

Department of Corrections PL-118- MSP Fiber Plant Upgrade
This one-time-only, restricted request will replace the existing fiber plant at Montana State Prison (MSP) which is obsolete and incapable of meeting the needs of the department. In addition, existing switches are out of warranty and it is anticipated by the Department of Administration ITSD design group that replacement parts will be out of manufacture by the first or second quarter 2007. The Executive recommends $350,000 in FY 2008 and $26,750 in FY 2009 of general fund for this request. It is not anticipated that this request will have an impact on any other state agency. The department also anticipates future technologies that would require this infrastructure upgrade. For example, key control systems, card readers, officer accountability tracking, officer down systems, proximity detection, RFID tool and equipment tracking, and possibly even inmate locators.

Appendix E – IT Budget Requests

Department of Public Health and Human Services NP-40004 – MMIS and Mental Health Systems Analysis

This decision package will produce a comprehensive, independent evaluation of the current MMIS and Mental Health systems to determine the agency needs for possible replacement systems. The current systems are twenty years old and built on a platform that is out of date with current technologies and is restrictive in the ability to make changes or upgrades and the systems are becoming more difficult to support. The results of this analysis will determine if major system enhancements will suffice to bring the systems up to speed with current program changes, or if new system rewrites will be required. The conclusions of this analysis will drive an EPP request for the 2011 biennium budget cycle for costs associated with either the major system enhancement or total system re-write. If it is determined that new system re-writes are necessary, this will result in a competitive procurement process.

The Medicaid Management Information System and Mental Health System would be impacted. The information derived from this evaluation will determine if it is necessary to procure new systems, or if enhancements to existing systems will suffice. Rough estimates for MMIS at this time could be as high as $70 million to procure the system. The budget request for 2009 biennium is $800,000 one-time-only with $600,000 in federal special revenue and $200,000 general fund. There are no ongoing costs for operations and maintenance.

Department of Public Health and Human Services NP-40011- Request for Funding for International Classification of Disease-10-Clinical Modification (ICD-10)

ICD-10 is the new procedure and diagnosis code set for Medicaid Management Information System for federal coding and reporting that will completely replace the current system known as the International Classification of Diseases-9Clinical Modification (ICD-9-CM). Implementation of ICD-10 is mandated by CMS. The ICD-10 will impact the Medicaid Management Information System (MMIS) including, but not limited to:

- Updating the procedure and diagnosis structure and content
- Claims processing
- Complete reworking of the Diagnosis Related Groups (DRG) grouping algorithms, Correct Coding Initiatives (CCI)
- Reporting
- Changing/updating internal business rules that rely on procedure and diagnosis codes

Other systems that will be impacted by this change are the Department's decision support system, SURS, financial reporting for the federal draw calculation and prior uthorization/utilization review contractors. There are no costs or impacts to other agencies. The project cost is estimated at $3,000,000 with expenditures for the 2009 biennium of $100,000 general fund and $900,000 federal funds. Moving from ICD-9 to ICD-10 is not expected to increase the cost of the current MMIS maintenance contract.

Department of Public Health and Human Services NP-90009-New TANF Eligibility System

The Economic Assistance Management System (TEAMS), a mainframe system to determine eligibility for Food Stamps, TANF and Medicaid, was developed in the late 1980's. The system does not meet the needs of the users; currently many of the eligibility functions are performed manually on spreadsheets outside the system by the eligibility workers, leaving room for errors and inconsistency, and consuming valuable time. The new system will provide eligibility staff with a more accurate, complete and efficient eligibility determination system. It will allow changes and enhancements to be made quickly and at a lower cost. An updated system will slow the rate of staff expansion required to accommodate increasing caseloads. The system will produce more accurate and efficient Federal reporting. It will improve program management in the areas of quality control, program security, issuance via the Electronic Benefit Transfer (EBT) system

as well as interfaces with other systems (i.e., Social Security, Child Support Enforcement, Dept. of Labor, etc.). This will contribute to the overall Department goal of providing accurate and timely assistance to eligible Montanans.

Applications impacted will be TEAMS; the closely-related Medicaid Eligibility System, CHIMES, and replacement of the existing TEAMS system, and the Electronic Benefits Transfer system (EBT). The costs of interfaces and parallel processing are included in the system development estimates, but are not broken out separately. There are no impacts to other systems. Estimated cost of project is $17,325,000. In the 2009 biennium, one-time-only expenditures of $9,555,000 are anticipated with $5,350,000 federal special revenue and $4,205,000 general fund. Ongoing hosting, maintenance, enhancement and licensing costs are estimated to be at or under $1,100,000 per year; DPHHS currently pays for the TANF system (as part of TEAMS).

Department of Public Health and Human Services NP-90010- New Food Stamp Eligibility System

The Economic Assistance Management System (TEAMS), a mainframe system to determine eligibility for Food Stamps, TANF and Medicaid, was developed in the late 1980's. The system does not meet the needs of the users, currently many of the eligibility functions are performed manually on spreadsheets outside the system by the eligibility workers, leaving room for errors and inconsistency, and consuming valuable time. The new system will provide eligibility staff with a more accurate, complete and efficient eligibility determination system. It will allow changes and enhancements to be made quickly and at a lower cost. An updated system will slow the rate of staff expansion required to accommodate increasing caseloads. The system will produce more accurate and efficient Federal reporting. It will improve program management in the areas of quality control, program security, issuance via the Electronic Benefit Transfer (EBT) system as well as interfaces with other systems (i.e., Social Security, Child Support Enforcement, Dept. of Labor, etc.). This will contribute to the overall Department goal of providing accurate and timely assistance to eligible Montanans.

IT applications that will be impacted are TEAMS; Electronic Benefits Transfer system (EBT). The costs of interfaces and parallel processing are included in the system development estimates but are not broken out separately. There are no impacts to other systems which will create costs that do not appear in these proposals.

This project has an estimated cost of $13,070,000. For the 2009 biennium, expenditures are anticipated to be $3,485,000 federal special revenue and $3,485,000 general fund. Ongoing hosting, maintenance, enhancement and licensing costs are estimated to be at or under the $1,100,000 per year; DPHHS currently pays for the Food Stamps System (as part of TEAMS).

Department of Public Health and Human Services NP-90011- New Child & Adult Protective Services System

The Child Protective Services (CAPS) system is an automated social services information system covering all major program areas of child protection, juvenile corrections and probation. CAPS is a mainframe system developed in 1996, automating business processes that were, at that time, several years old. The current system no longer meets the needs of the users and does not meet mandated reporting requirements. Many functions are currently being performed outside the system, causing inconsistencies, and leaving room for errors.

The new system will allow changes and enhancements to be made quickly and at a lower cost. The system will produce more accurate and efficient Federal reporting. It will improve program management in the areas of quality control and program security. A new more efficient system will help mitigate the need for additional staff and will drastically improve efficiency, relieving the pressure to staff as caseloads increase. An updated system will enhance the Department's

ability to attract recently-trained, qualified program workers and to find well-trained IT staff to maintain and enhance the system. This will contribute to the overall Department goal of providing accurate and timely assistance to Montanans.

Replacement of the CAPS systems is not expected to impact other systems or other agencies. Cost of project is anticipated to be $27,150,000. For the 2009 biennium, one-time-only expenditures will be $8,804,000 of which $3,873,760 is federal special revenue and $4,930,240 general fund. Ongoing hosting, maintenance, enhancement and licensing costs are estimated to be at or under the $2,000,000 per year; DPHHS currently pays for CAPS.

Appendix E – 2009 Budget Requests

Agency	Decision Package Description	General Fund	State Special Revenue	Federal Special Revenue	Proprietary Funds	Total Cost
2110 Judicial Branch	NP1002 - Information Technology - Rst/Bien/OTO	$3,935,000				$3,935,000
2110 Judicial Branch	PL1007 - IT Software Maintenance	$521,446				$521,446
3201 Secretary of State	NP2 - Agency Technology Projects				$2,256,500	$2,256,500
3501 Office of Public Instruction	NP6 - K12 Education Data Systems	$3,458,947				$3,458,947
4110 Dept of Justice	PL2905 - Additional Spending Authority for IJIS Broker		$750,000			$750,000
4110 Dept of Justice	PL2907 - Increase Spending Authority for CJIN Refresh		$375,000			$375,000
5102 Comm of Higher Education	NP1051 - Improve Transferability and Student Data OTO	$1,475,000				$1,475,000
5301 Dept of Environmental Quality	PL1001 - Business Process Improvement OTO	$1,800,000				$1,800,000
5301 Dept of Environmental Quality	PL1003 - Central Management Information Technology Grants			$542,582		$542,582
5401 Dept of Transportation	PL1502 - ACS Contract – Restricted		$490,600			$490,600
5401 Dept of Transportation	PL1509 - IT Equipment Replacement		$461,122			$461,122
5401 Dept of Transportation	PL1512 - IT Maintenance Costs		$319,582			$319,582
5706 Dept of Natural Resrcs & Cons	NP2203 - O&G Public Assess Data System IT		$425,365			$425,365
5706 Dept of Natural Resrcs & Cons	NP3501 - Radio Communications IT RST	$514,800	$265,200			$780,000
5706 Dept of Natural Resrcs & Cons	PL2101 - GIS Enterprise Project IT		$375,427			$375,427
5706 Dept of Natural Resrcs & Cons	PL2401 - Water Resources Operating Adjustment IT	$153,543	$312,127			$465,670
5801 Dept of Revenue	NP202 - Free Electronic Filing	$6,821,404				$6,821,404
5801 Dept of Revenue	PL201 - On-going System Costs	$7,577,036	$195,800	$79,200		$7,852,036
6101 Dept of Administration	NP710 - Geographic Coordinate Database (Bien)			$800,000		$800,000
6101 Dept of Administration	NP727 - Statewide E 911 Network (OTO Biennial)	$4,000,000				$4,000,000
6101 Dept of Administration	NP729 - Public Safety Radio-Consortium Funding (OTO Bien)	$5,000,000				$5,000,000
6101 Dept of Administration	NP730 - Public Safety Radio-Interoperability MT Funding OTO	$3,500,000				$3,500,000
6101 Dept of Administration	PL709 - Network & Server Investment to Provide 24/7 IT Svcs				$1,864,000	$1,864,000
6101 Dept of Administration	PL712 - Northern Tier Network Expansion/OTO	$6,687,000				$6,687,000
6401 Dept of Corrections	NP120 - Interoperable Communication Project - OTO	$2,622,424				$2,622,424
6401 Dept of Corrections	PL118 - MSP fiber plant upgrade OTO	$376,750				$376,750
6401 Dept of Corrections	PL119 - IT Service Upgrades	$300,000				$300,000
6901 Dept of Public Health & Human Services	NP40004 - MMIS and Mental Health Systems Analysis (BIEN/OTO)	$200,000		$600,000		$800,000
6901 Dept of Public Health & Human Services	NP40011 - International Classification of Disease-10 CM	$100,000		$900,000		$1,000,000
6901 Dept of Public Health & Human Services	NP90009 - New TANF Eligibility System - OTO	$4,205,000		$5,350,000		$9,555,000
6901 Dept of Public Health & Human Services	NP90010 - New Food Stamp Eligibility System - OTO	$3,485,000		$3,485,000		$6,970,000
6901 Dept of Public Health & Human Services	NP90011 - New Child & Adult Protective Services System - OTO	$4,930,240		$3,873,760		$8,804,000
		$61,613,590	$3,970,223	$15,630,542	$4,120,500	$85,384,855

Appendix F – Major IT Projects for Fiscal 2005 and 2006 Existing

The IT projects in the following table were active during the last biennium.

Agency	Project	Description	Budget	Estimated End Date	Status
Administration	Lottery system replacement	The project is intended to facilitate the transfer of management of the Lottery systems to a new vendor.	a percentage of revenues received	April 2006	completed April 2006
Administration	Service Management Phase 1	Service Management Phase 1 project is part of the Excellence in Service Management program that implements best practices based on the ITIL framework. This project establishes the initial integrated IT Service Center functions.	$.51M	April 2007	In progress
Commerce	Visits	The project involves developing a new Call Center, inventory management and marketing system for the Montana Promotions Division's Travel Montana Program.	$1.9M	October 2004	completed September 2005
Corrections	O-Tracks	The new system will provide comprehensive correctional system management to replace the aging Adult Corrections Information System and the incomplete ProFiles system.	$1M	2005	Cancelled for lack of funding
Judiciary	Court Automation	This project will update the Judicial case management systems through an implementation of Full Court for Courts of Limited Juristiction; and the development/rollout of a graphical user interface for the Judicial Case Management System (JCMS).	$1.8M (annual branch IT budget)	July 2005	December 2005 for JCMS; September 2006 for Full Court
Justice	T261	The project is focused on applying Business Process Reengineering (BPR) and supporting technology to improve efficiency and services within the Department of Justice, Motor Vehicle Division.	$22.5M for T261 and Merlin	January 2008	completed September 2005 (followed by Merlin)
Justice	Merlin	Implementation phase of T261. MERLIN will implement a customized commercial Motor Vehicle system developed by Archon within the Motor Vehicle Division.	$11.8M	Spring 2008	completed Spring 2008
Justice	IJIS Broker	This project will create an interface system (broker) for transmitting data and transactions between applications at Justice, Corrections, and the Courts. The Integrated Justice Information System (IJIS) Broker is an extendable open standards platform.	$1.7M+	June 2007	in progress

Appendix F – Major IT Projects for Fiscal 2005 and 2006 Existing

Labor and Industry	Phoenix	Phoenix is the transfer of the Unemployment Tax Program back to the Department of Labor and Industry. The pre-POINTS UI Tax system, Montana Automated Collection (MAC), will be revived and modified to meet statutory Federal and State, rule and technical changes which have occurred since 1999.	$4.0M	December 2004	completed June 2005
Labor and Industry	UI4U	The new system will take Unemployment Insurance Claims over the Internet. The objective is to reduce claim center workload and delays in filing.	$.75M	December 2004	completed summer 2005
Montana State Fund	Claim Center	ClaimCenter is a claims processing package application system being installed as a replacement for the existing Claims Management System (CMS). The project has completed the Initiation and Requirements phases. It is currently in the Design phase.	$2.98M	October 2005	completed May 2006
Montana State Fund	Websphere Portal	The portal will provide the framework for web enabling insurance functions for employees and customers	$.8M	April 2004	completed February 2004
Revenue	IRIS Phase I	IRIS is the integrated tax system that will replace POINTS. The system will include base/common processing and the following tax types: Rental Vehicle, Lodging Facilities, Cigarettes, Withholding, and Combined Oil & Gas System (COGS).	$17M	December 2004	completed December 2004
Revenue	IRIS Phase II - Income and Corporate Tax	ICT is the next phase of the replacement of the POINTS system. ICT encompasses the rollout of the Corporate License Tax and Individual Income Tax modules of the GenTax Software solution.	$8.2M	September 2005	completed October 2005
Revenue	IRIS Phase III	This is the final phase of the IRIS project and the purpose is to integrate all DOR administered taxes using the GenTax system, shutdown the POINTS system as per legislative mandate, and add DOJ gambling tax to the GenTax system	$9.2M	January 2007	completed January 2007
Revenue	PVAS - Property Tax	The Department of Revenue, Property Assessment Division is replacing five legacy computer systems (MODS, BEVS, CAMA, UAS, and Landisc) with one Real & Personal Property Valuation and Assessment System to be used statewide.	$5.2M	March 2007	In progress
Secretary of State	SVRS	SVRS is a requirement of the Help America Vote Act (HAVA)2002. By January 1, 2006 every state is required to have a single centralized, interactive, list of every legally registered voter. Requirements Analysis, Phase 1 of the SVRS project.	$3.2M	January 2006	completed February 2006
Transportation	Site Manager – Construction	The purpose of the project is to implement the construction management functions within the Trns•port module, Site Manager to various entities inside and outside the department. This will provide MDT with consistent and accurate construction contract administration utilizing national DOT best practices.	$5.2M	July 2007	In progress

Appendix G – Major Information Technology Projects for 2008-09

Non-EPP Major Technology Projects

Secretary of State #I1 SOSKB Business Services System replacement.
SOSKB is 'public domain' software, originally created for the SOS office in North Carolina, and now customized and deployed to 13 other states. Montana SOS office will work with an approved vendor to accurately define the business requirements of the Business Services Bureau and Management Services Bureau, then perform a GAP analysis to determine if the SOSKB is the best solution for Montana. Based on early demonstrations of the SOSKB it appears the systems meets high level general requirements, and would be a significant improvement to the efficiencies of the Montana SOS office.

Department of Justice MHP Mobile LAN
Mobile LAN technology will allow the Highway Patrol Officer to have their office in their car. Thus allowing them to stay in the field, and the road; therefore improving public safety. Mobile LAN technology will reduce the time needed to respond to incidents. It will also reduce the amount of time used to report on an incident because they will be reporting from the incident, and allow for more accurate reporting from the patrol officer during a shift.

Department of Justice Fusion Center
The Montana Department of Justice has state and federal laws, guidelines, and restrictions related to the information held, passed, and collected by the department. The department currently has a facility at Fort Harrison that is rent free, with the only cost being support and maintenance of the systems. The Fusion Center allows information to be stored, analyzed, and disseminated properly in accordance with all applicable laws, rules, guidelines, and procedures at both the state and federal levels. The systems include but are not limited to: CJIN, Crime Intel, RMS, IJIS, SVOR, MERLIN, EOL, Missing Persons, Concealed Weapons, Criminal History Records, Criminal Photo Repository. The Fusion center includes the data center to house the systems as well as state, federal and local data analysts to ensure that the information held, passed and collected is done so in accordance to the laws, guidelines and restrictions related to justice information. The Fusion Center is more than a data center it is the data and the resources associated with making sure the information is accurate and timely.

Department of Justice Merlin
The MERLIN system will allow the citizens of Montana to have fast, accurate, and reliable service in respect to the Motor Vehicle Systems. It will allow the department to have better accountability of data, more advanced media to utilize for the citizens, and a better revenue tracking system. This system is replacing the antiquated mainframe system with a new mid-tier system allowing the state to take advantage of new technology.

Commissioner of Higher Education # I1 MGSLP Loan Guarantee Software
To participate in the Federal Family Education Loan Program (FFELP), MGSLP needs a special type of loan guarantee processing software. This software does a variety of student loan related tasks; including federal reporting, school financial aid packaging, and aggregating of student loans. This is a new contract for services; a replacement for what they already use.

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Commissioner of Higher Education # I2 Imaging System
Replacement for the current imaging system. A shared system with the Student Assistance Foundation (SAF) that SAF operates. An imaging system would be used for two primary reasons: 1) to automate office functions from paper to electronic processing and 2) to eliminate or minimize the need for onsite storage of paper documents.

Arts Council #1 Data Capability and Web One-stop Shopping for Montana Artists
Hardware, software, and contract services to build and maintain a web site.

Department of Environmental Quality #2 On-line Permitting/eGov Forms Submission
Implement on-line licensing, permitting, and data submissions from the regulated community.

Department of Environmental Quality #3 Accounts Receivable/On-line Payment
Implement an accounts receivable and on-line payment system across the agency that is compatible with and links directly to SABHRS.

Department of Environmental Quality #8 Business Process Management/Workflow Tools
Implement a BPM/Workflow tool (e.g., FileNet) that assists in the analysis of BPM processes and the flow of work across the agency and to/from outside organizations.

Department of Transportation # **I1 Maintenance Management System**
Monitor repairs and maintenance on state highway.

Department of Transportation # I2 Photogrammetry File Digitization
Geo-referenced digital images on web based system

Department of Transportation # I4 Civil Rights and Labor Management Systems
Monitor contractor compliance with Title VI.

Department of Transportation # I5 GIS Wildlife and Fish Habitat Linkages
Identify areas for maintaining or restoring connectivity among habitats.

Department of Transportation # I6 Unified Carrier Registration
Creates and Monitors a National Standard governing commercial licensing

Department of Transportation #I8 Traffic Records Project
Traffic records strategic plan to track safety data.

Department of Transportation # A6 Integrated Financials
Common coding conversion of existing business applications.

Appendix G – Major Information Technology Projects for 2008-09

Department of Revenue # 2 Free Electronic Filling
This proposal requests $5,363,870 to provide additional e-services including free electronic filing and Telefile services to the citizens of Montana. This includes funding for six positions to administer e-services, funding for filing annual MW3-W2/1099's, funding for filing C-Corp, S-Corp and Partnerships, funding for additional e-payment options, funding for e-services marketing, funding for web based software Taxpayer Access Point (TAP), and funding for free Telefile services.

Department of Revenue # 1 "One stop" for Licensing, Fees, and Permits
Develop a free web-based “One Stop” electronic service enabling Montana citizens and businesses to register, pay for and acquire all licenses, fees and permits for conducting business with the relevant state agencies.

Department of Revenue # 3 Expand Compliance Tools
Expand the use of the GenTax Discovery tool to increase the availability of data to be used in compliance activities. This initiative is to obtain funding for increased mid-tier storage costs.

Department of Revenue # 5 Web Based Services for Property Tax
Implement a web service that provides public access for property tax services.

Department of Administration 2 Service Management
A Service Management Program with the goal of implementing operational best practices to provide superior availability, reliability and performance.

Department of Administration 16 AntiSpyware/Adware Software
Software for the detection and elimination of “spyware” and “adware” within the State network

Department of Administration 17 Living Disaster Recovery Planning Software (LDRPS) Positions
The addition of three positions to assist agencies that are utilizing the LDRPS system.

Department of Administration 18 MITA Implementation Staffing
The November 2005 Enterprise IT Management Audit (05DP-06) identified several areas where DOA had failed to fully implement several components of MITA. This initiative is focused on establishing the processes, policies, and oversight necessary to fully implement MITA. The primary requirement is additional staff.

Department of Administration 19 Project Manager Personnel
The addition of two professionally trained, preferably certified, project managers to work primarily with ITSD to manage large projects. Secondary duties would be assisting the ITSD Project Management Office and external agency projects

Department of Administration 23 Email Records Management and Archive
Email has been and will be continued to be part of official state public records. Email is also seen as “discoverable” items in lawsuits that concern the state. ITSD needs to provide a system to archive and store emails in accordance with State records policy.

Appendix G – Major Information Technology Projects for 2008-09

Department of Administration 24 Microsoft Office Upgrade
Upgrade approximately 9,650 workstations to current version of Microsoft Office or open source alternative.

Department of Administration 25 Microsoft Exchange Upgrade
The State of Montana Enterprise email system is based on Microsoft's Exchange server product. Microsoft will introduce a new version of Exchange mail server software in late FY2007. ITSD is currently running Exchange Server 2000 and will be upgrading to Exchange 2003 in the first part of FY2007. In late FY2008, we expect to be ready to upgrade from Exchange 2003 to what is currently known as Exchange 12. This initiative is to account for the costs associated with upgrading and keeping current on the Microsoft Exchange email product.

Department of Administration 26 Storage Area Network (SAN) High Availability
To realize greater economies of scale and their cost efficiencies the State has utilized Storage Area Network (SAN) devices to host the data of multiple systems. While being very reliable, an outage to one of these SAN devices has an extreme impact on all connected systems. The purpose of this initiative is to implement redundancy techniques in the State's SAN environment that provide High Availability benefits by eliminating single points of failure. When implemented, the elements of hardware and software would facilitate the placement of data from selected servers on multiple SAN devices or provide redundancy to data within a SAN.

Department of Administration 27 Identity Management
Establish and implement an identity management architecture for the State
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Department of Administration 29 Server Growth
ITSD has experienced 300% growth in the commissioning of servers over the past 3 years with an average growth rate of 100 servers per year. We do not anticipate a decrease in this rate in the near term. Several factors are expected to contribute to the continuation of the increase of the number of servers ITSD is required to host and maintain for agencies and the enterprise. The primary reason is the ongoing implementation of the Montana Information Technology Act (MITA), which will drive agency and ITSD server changes and will undoubtedly require additional servers be installed. The consolidation of computing resources into the State's Service Centers is also expected to contribute significantly to continued server growth that ITSD manages. This initiative is intended to address the future growth in ITSD managed servers.

Department of Administration 30 Server Hardware Replacement and Upgrade
ITSD manages over 175 physical MidTier servers with about 35 of those servers being Unix, 19 Linux, 24 VMware ESX, and 97 Windows. Server equipment is typically scheduled and accounted on a three or four year hardware replacement cycle. This initiative is to account for the costs associated with replacing and if necessary upgrading hardware for those ITSD managed servers that have reached the end of their service life

Department of Administration 31 Storage Capacity Growth
This initiative is intended to address the future growth in data storage required to support anticipated growth in hosted services.

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Department of Administration 32 Windows Server Licensing Growth &Upgrade
Agency demand for ITSD hosted Windows servers and software services hosted on Windows servers are increasing. ITSD needs to plan for future growth of the number of Windows server licenses and also plan for license upgrades for the current Windows server environment to new Microsoft server operating systems.

Department of Corrections #1 New FTE's (6)
The average ration of IT staff to employee's in Montana State Government is 5.8%. The Department of Corrections has a ration of 1.9% which limits the ability of IT to provide the required level of service to the Department. There have been many additional facilities connected to computer systems, more users added, more applications required, and IT has not grown to meet these additional needs.

Department of Corrections Records Imaging/e-Forms/Workflow
The Department has embarked upon imaging of inmate legal records, but that is only the beginning. There have been requests to image the entire offender record for immediate access from anywhere. In addition to that, the HR division has requested the ability to store records in an electronic format for easier recovery and security. There is also desire to build workflow processes upon these documents once they have been imaged. This funding will purchase the needed scanners and licenses to utilize FileNet for scanning of records. It will also pay the storage fee's associated with that storage, for assistance in setting up policies for storage and retention of the records, and for temporary staff to scan the records.

Montana State Fund # I1 Data Warehouse Reporting Tool
Continuation of existing project. MSF's current data warehouse contains static reports displaying data refreshed on a nightly basis. Any new reports requested by the business are time-consuming and complex to develop in the current environment. The nightly batch process to populate the data is prone to errors, undocumented, and unstable. The business requires an application that allows for ad-hoc query capability in small, data mart structures. Data refresh criteria, depending on the business data, is not necessarily needed on a nightly basis. Batch processing must be stable, documented, and consistently run in the designated timeframe.
MSF # I2 upgrade of Claim Center application Continuation of existing project.
MSF # I4 Identity Management MSF requires an enterprise security and identity management solution. Identity authorization is important when employees and stakeholders access MSF services and information. The scope includes consolidation and application independence of security, permissions, and roles for internal and external system access, as well as system administration tools and a partial replacement of existing legal entity information.

Montana State Fund # I6 Employee Management and satisfaction
MSF requires the ability to focus on internal insurance recruitment and human resource management. This includes efficiently interfacing with State SABHRS system as well as the ability to locally manage additional employee data regarding training, succession planning, career ladders, skills inventory, etc.

Montana State Fund # I7 Insurance Policy Pricing Tools
MSF requires the ability for efficient and automated pricing tools for agents, as well as for alternative pricing plans such as retros and large deductibles.

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Department of Public Health and Human Services #5 CHIMES
New Functionality and new platform for Medicaid eligibility.

Department of Public Health and Human Services #4 New WIC System
New WIC system

Department of Public Health and Human Services #6 Big Sky Rx
Development and maintain new system for Big Sky Rx.

Department of Public Health and Human Services #7 HIFA Waiver
This initiative will provide for the system requirements necessary to implement the HIFA Waiver through the Medicaid Management Information System (MMIS)

Department of Public Health and Human Services #8 National Provider ID
This initiative is necessary to provide for the MMIS remediation work required as a result of a federal mandate to states for National Provider Identification ability and UR Forms updates.

Enterprise Systems Services Centers (ESSC)

Concept Document

Introduction

The State of Montana and Montana citizens are heavily dependent on computer systems, network facilities, and voice telecommunications facilities managed by the Department of Administration (DOA), Information Technology Services Division (ITSD). These facilities are currently housed in the basement of the Mitchell Building in Helena.

The Mitchell Building basement is unsatisfactory for housing this critical infrastructure for the following reasons:

- The building is old and at risk for seismic damage in the event of a significant earthquake.
- The east wing of the Mitchell Building, which houses the computer center in the basement, is poorly engineered
- Water pipes and communications and power cables are positioned side-by-side, making them vulnerable to any leak.
- Millions of dollars of sensitive electronic equipment is vulnerable to water collecting in the lowest portions of the building.
- The Mitchell Building was not designed with considerations for providing physical security. There are 14 exterior entrances to the building.
- The State is increasingly at risk of failing to meet federal HIPAA, IRS and Justice data sharing requirements because of shortcomings of the building, particularly those related to security.
- Since the Department of Revenue and other divisions of the Department of Administration also occupy the building public access is required. This requirement complicates security measures.

Members of the Legislative Audit Committee, Governor Brian Schweitzer, Chief of Staff Bruce Nelson, and Budget Director David Ewer have toured the data center and have expressed concerns about the current facilities and the need for secure, efficient facilities.

The Department is proposing to construct two facilities:

1. A new ESSC building in Helena to house ITSD staff and the primary Systems Services Center.
2. A remote ESSC facility in the eastern portion of Montana to provide operational capacity, redundant facilities to support critical services, accelerated back up processes and enhanced disaster recovery capabilities.

Goals of the ESSC Proposal

The ESSC proposal has four goals:

1. To provide security that protects Montana data, hardware, and software to the level of industry best practices and the requirements established by Federal agency partners.
2. To provide "non-stop" operation of critical applications through redundant services centers, redundant computers, and replicated data.
3. To accommodate the data center computing facility needs of other agencies quickly and with minimal cost.
4. To maximize the State's benefit from its disaster recovery investments.

Business Goals

The ESSC goals support the following key business goals:

	BUSINESS GOALS			
ESSC GOAL	**Continuity of Government**	**Improved Services**	**Security**	**Efficiency of Government Services**
Security: Assure that critical state IT infrastructure is housed in facilities that minimize the risk posed by natural disaster or human threat.	Yes		Yes	
"Non-stop" services: Provide redundancy to minimize the effects of both planned and unplanned outages on ITSD services.	Yes	Yes	Yes	Yes
Cost efficiency: Provide capacity for ITSD growth and co-location of agency IT operations into shared facilities.	Yes	Yes	Yes	Yes
Disaster Recovery: Derive maximum benefit from funds currently spent on out-of-state "cold site"[1] disaster recovery services.	Yes			Yes

[1] *Cold site* refers to a facility that is available to the State for disaster recovery purposes with hardware capable of supporting critical State processing. All application systems and data must be restored at the

Helena Enterprise Systems Services Center

The Helena ESSC will provide the following facilities:

- A technical facility housing:
  - Enterprise Data Center
  - Network Operations Center
  - Voice Telecommunications Operations Center
- Office facilities for ITSD Operations staff and any technical staff from other agencies that want to be located with any hardware hosted in the computer center. If possible, the remainder of ITSD staff should be housed in the new office building with the technical personnel.

The facilities will be connected to the Capitol Complex metropolitan area network.

Technical Facility Characteristics:

Following is a list of key characteristics of the facility housing the Enterprise Data Center, Network Operations Center, and the Voice Telecommunications Operations Center.

Physical capacity

- 12-15,000 square feet of raised floor equipment space to accommodate ITSD equipment, including volume-printing equipment.
- Modular expansion capability to accommodate ITSD growth and housing of other agencies' equipment at minimal cost.
- Redundant emergency electrical generators will be provided for all electrical needs. This includes power monitoring and automated transfer features.
- Appropriate fire suppression capability, such as FM200[2], will be installed to protect all electronic equipment. There will be no water sprinkler fire suppression in areas designed to house electrical equipment.

Safety and Security

- The Technical Facility will be a single story building engineered to standards established for seismic zone 4.
- There will be a single, controlled access point with cardkey electronic access and staff-monitored access during normal business hours. Video monitoring will be considered as well.
- There will be no external signage identifying the building as a technical center.
- There will be a minimal number of windows in the facility.

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cold site from back-up files routinely created at the normal processing site. Restoration takes two to three days under exercise conditions. ITSD has a contract with SunGard Recovery Services for cold site services.

[2] *FM200* is the fire suppressant agent used in areas that contain electronic equipment. It is more effective and less environmentally damaging than its predecessor agent, HALON.

- Site selection will minimize the risks posed by adjacent infrastructure and development. Examples include risks posed by rail lines, major highways, and petroleum refining and storage facilities.
- Landscaping and topographical features will be used to keep vehicles and pedestrian traffic well away from the building. Employee parking will be positioned away from the technical facility.

Office Facility Characteristics

- Facilities for approximately 100 ITSD Operations staff plus an estimated 30-50 agency technical staff. If feasible, space for an additional 60 ITSD staff would be highly desirable.
- The Office Facility will be connected to the Technical Facility by a shared reception area.
- Cardkey access and staff monitoring during normal business hours will secure the Office Facility.
- The reception area will include several meeting rooms, with video conferencing capability, to minimize the number of visitors requiring access to controlled areas. These rooms would be able to be combined to provide meeting space for at least 150 people.
- One or more meeting rooms will be configured to serve as an "emergency operations center" in the event of an emergency affecting IT services.
- An open office design use modular furniture, workspaces and offices, including all supervisor and manager offices. Numerous small meeting rooms will be included in office areas to promote collaboration.

Critical Nature of the Office Facility

Decision-makers need to understand the critical nature of the office facility. There is tremendous potential benefit to the state if servers, other equipment and staff from many agencies can be co-located in the Helena ESSC. These benefits include efficient use of staff, improved operations for agencies, space "recovery", and other benefits. There is the potential to provide expanded services to local units of government with additional benefits to Montana citizens.

However, many technical jobs in IT are most efficiently performed by the employee in close proximity to the equipment upon which he/she works. It is imperative that adequate space be provided adjacent to the Technical Facility to house those technical workers. Providing that space will avoid a serious obstacle to centralization[3] of agencies' computing environments.

[3] *Centralization* refers to agencies co-locating their computing environments in a shared facility. Agencies receive the benefit of state-of-the-art facilities providing security, protection from natural or manmade disaster, additional services, such as backup, and 7X24 professional operations staff. In a centralized approach the agency retains ownership and control of the IT equipment.

Office space in the Capitol Complex is extremely scarce. ITSD occupies a large block of that space immediately adjacent to the Capitol. Moving ITSD staff to the new office building will free up that space for other tenants.

Location Connectivity Considerations

The new facility is likely to be located away from the Capitol Complex on existing state-owned land, probably in the vicinity of the MDT office complex. This will require extending the metropolitan area network, or Capitol Complex Backbone network, to the new building by installing buried conduit housing fiber optic cable. Dual paths will be required to provide redundancy. We estimate this will cost $500,000.

Potential Capitol Complex Presence

It may be sensible to retain space in the Capitol Complex for the following purposes:

- An office for the CIO in view of his/her interactions with decision-makers housed in the Capitol Complex.
- Retain "office hotel"[4] space at the Capitol Complex to ensure productivity of ITSD staff members that frequently meet with agency customers and for special situations, such as the Legislative Session.
- Retain a printing facility to allow ready distribution of volume print to agencies if distribution capabilities of the capitol mail service are not satisfactory. Note that discussions are underway with Printing and Graphics to move ITSD's printing operations off-campus. A decision to do so would eliminate the need to retain printing space in the Capitol Complex.

Further analysis of these needs will determine whether or not space in the Capitol Complex is needed.

Remote ESSC

The remote ESSC will provide the following facilities:

- Enterprise Data Center
- Backup Network Operations Center
- Backup Voice Telecommunications Operations Center
- Office facilities for ITSD staff and any technical staff from other agencies that host their hardware in the data center that desire to co-locate with their equipment.

Benefits to the State include positioning key systems in a high quality environment, reduction in total staff required for operations across involved agencies and the freeing of space currently used for housing hardware in those agencies.

[4] *Office hotel* refers to providing office facilities in a location that can be used by a variety of workers on an as-needed basis, rather than on an assigned basis. In this way a limited amount of office facilities can support the occasional needs of a number of people.

The facility will be connected to the statewide SummitNet wide area network. The remote ESSC will provide additional production processing capacity to work in concert with the Helena facility. The two facilities also will provide "hot site"[5] backup for each other by replicating critical application data to the other site. In the event of a service interruption at one site, the other site will pick up the processing load for critical applications with virtually no interruption in service. Non-critical applications may be unavailable or experience lower levels of performance during these situations.

This facility, located in eastern Montana, will provide a number of infrastructure services, such as telecommunications, for eastern portions of the state. During normal operations this facility will provide the eastern Montana users with the best possible systems performance and response.

Remote ESSC Characteristics

The facility will have similar characteristics to the Helena facility with the exceptions of size and limited office space, which will be in a single building with the technical facility.

Initial size of the remote facility is estimated to be 5,000 square feet. The design will allow for modular expansion at the lowest possible cost. All safety and security features will be consistent with the Helena facility with two exceptions:

1. Seismic engineering will be determined by the location selected for the facility. We expect that it will be in a less seismically active area and the cost of the building will be reduced as a result.
2. There will not be a need for reception monitoring of access. All access will be based on cardkey devices and a second authenticating factor, such as a biometric characteristic[6] or a fob[7].

Hardware and Communications Investments Required

The ESSC plan requires investments in both computing and data storage equipment, and in high-speed communications between the two centers to achieve the goal of non-stop service for critical applications.

Computing and Data Storage

The computing and data storage equipment investment will be primarily in data storage devices with a modest amount of peak load server capacity also expected. The hardware

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[5] *Hot site* refers to a facility that is continually kept current ("mirrored") with production State applications and data at the primary processing site. Two sites can mirror each other and share the normal processing load as the primary site for the critical applications. In the event of a processing interruption at a primary site, its critical applications can continue processing by switching to the hot site with little or no disruption in service.

[6] *Biometric characteristics* are unique physical characteristics of an individual that can be used for identification purposes for security. Examples include thumbprints and retinal scans.

[7] A *fob* is a small device assigned to an individual, as a complement to a user-id and password, to assist in ensuring that the individual is who he/she purports to be. For example, an employee may be required to enter user-id/password **and** place their fob in a special reader to gain access to a controlled area. This is often referred to as two-factor authorization.

will allow critical application data to be replicated in both sites to assure virtually non-stop processing by critical applications in the event their primary processing site is interrupted by either a planned (such as preventative maintenance) or unplanned outage (such as an equipment failure). We estimate $500-750,000 for this equipment at each site. However, the actual investment will depend directly on the amount of data in applications deemed to be "critical".

Management Control Software

Operating multiple sites, especially where "hot" backup of each other is involved, requires that investments in management control software tools to minimize the need for additional staff. Remote server and storage management, backup software, remote network monitoring and management, and scheduling software are representative of these tools. We estimate the cost of these software licenses to be $250,000 with $50,000 annual support and maintenance charges.

Communication Links

Real-time data replication and disk-to-disk backups over the network will require high bandwidth communications capabilities. While this technology is constantly changing and the price-performance is continually improving, costs for a high-speed link would be expected to be approximately $15,000/month for redundant, high capacity, optical fiber connections. These are recurring operational costs, not one-time construction costs.

Estimated Cost Summary

	Estimated Initial Cost	Estimated Recurring Cost
Land Acquisition	$250,000 (Helena site expected at no cost)	N/A
Helena Systems Services Center	$14,100,000 (0ffice) $3,000,000 (Technical Center)	N/A
Helena Site Preparation & Parking	$1,750,000	
Helena Capitol Complex Network Extension	$500,000	N/A
Eastern Montana "Hot Site" Systems Services Center	$2,000,000	$180,000/year (high-speed comm. link)
Computing & Storage Equipment for High Availability	$1,500,000	$300,000/year (hardware maintenance)
Systems & Site Management Software	$250,000	$50,000/year (software maintenance)
Moving Cost	$300,000	
Additional Furnishings Provision	$500,000	
Total One-time Cost	$24,150,000	$530,000/year

Avoided ITSD Space Costs:

By moving all ITSD staff and operations to the new building, the costs associated with their present housing would be avoided. The following table includes ITSD space costs based on January 2006 actual costs.

	Weinstein	M&M *	ITSD- Mitchell	Annex	Old Livestock	SABHRS	TOTAL
Per Month	$ 3,862.50	$ 5,382.10	$ 27,608.00	$ 852.00	$ 606.00	$ 2,934.00	$ 41,244.60
Annual	$46,350.00	$64,585.20	$ 331,296.00	$10,224.00	$ 7,272.00	$35,208.00	$494,935.20

***** - This is a five year lease through Jan 2010

NOTE:

Figures are based on January 2006 amounts.

Amounts do not include storage.

Amounts do not include training center.

Any other agency that uses the new facility to house equipment and staff will also avoid space costs associated with their current physical location. ITSD will charge hosted agencies for space occupied in the new facility through appropriate rate structures. The resulting revenue from agencies plus the avoided ITSD space costs, above, are important parts of the financial consideration of this proposal.

Avoided Disaster Recovery Vendor Costs/Improved D/R Performance:

One of our business objectives is to "derive maximum benefit from funds currently spent on out-of-state "cold site"[8] disaster recovery services." ITSD currently has a contract with SunGard Recovery Services to provide ITSD staff with a physical location and specified hardware to allow the ITSD to recover and provide services in the event of a disaster. Our primary SunGard site is near Philadelphia, Pennsylvania. The current annual cost of that contract is approximately $350,000, and it is increasing as we add and expand services. ITSD conducts two disaster recovery drills annually at the SunGard site costing an additional $50-100,000 annually.

Our relationship with SunGard can be thought of as an "insurance policy"; only in the event of a disaster will we receive any direct benefit. By contrast, our approach of dual sites that back each other up, and which can almost instantly take over critical processing in the event of an outage at one site, dramatically changes our disaster recovery capability. The two to three days required to physically move back up files and key staff

[8] *Cold site* refers to a facility that is available to the State for disaster recovery purposes with hardware capable of supporting critical State processing. All application systems and data must be restored at the cold site from back-up files routinely created at the normal processing site. Restoration takes two to three days under exercise conditions. ITSD has a contract with SunGard Recovery Services for cold site services.

across the country to the SunGard site and begin to restore services is eliminated. Instead, critical services are continuously available. This is crucial for public safety and services to citizens dependent on the State for their most basic needs. The nearly $450,000 presently flowing out-of-state will help provide these critical services in-state, without interruption.

Project Timeline Examples

Traditional Approach Construction of the Systems Services Centers

Moving ITSD services and staff out of the Mitchell Building is the foremost priority. To permit ITSD to occupy the new Helena facility as quickly as possible, ITSD and the Architecture and Engineering (A&E) Division can conduct conceptual design activities prior to full project approval by the 2007 Legislative session. This will allow detailed design and bid-letting to move forward immediately upon passage of bonding authority. A&E advises that under this scenario, the new Helena facility would likely be ready for occupancy during the winter 2009-2010.

Due to smaller size and lesser complexity of the remote facility, it's likely that it could be ready for occupancy earlier than the Helena ESSC. To minimize problems during the shakedown period of the Helena ESSC, we will likely move the equipment currently housed in the existing Billings site to the remote ESSC prior to occupying the new Helena site.

Attachment A contains a representative project timeline for this approach.

Non-Traditional, Accelerated Construction Approach

To realize the benefits of the new Systems Services Centers earlier than the traditional approach allows, a non-traditional approach can be used. There are two major aspects of this approach to consider:

1. There needs to be a sub-project for each of the facilities:
    a. Eastern Montana "hot site" technical facility.
    b. Helena technical facility.
    c. Helena office facility
2. All sub-projects would have only conceptual design performed prior to Legislative approval.

This approach would allow ITSD to occupy the eastern Montana site in mid-to-late 2008. The Helena technical facility would come online around year-end 2008 and the office facility in late 2009. An additional benefit of this approach is that the office requirements would be included in the Helena general space requirements plan being developed by A&E.

Attachments B1 and B2 contain representative project timelines for this approach.

Leased Facilities Approach

To further accelerate the project requires the used of a leased facilities approach. In this approach a private sector company would construct facilities to our specifications. The state will enter into a long-term lease with the builder.

There are a number of very important considerations:

- This approach does not require project approval and funding by the Legislature. This removes significant time from the design and construction cycle. However, it may cause significant concern for legislators who feel we have evaded their authority to approve building projects.
- There may be concern that long-term lease constitutes debt, which requires legislative approval.
- Constructing private sector-owned buildings on state land.

This approach, if allowed, might reduce the time-to-occupancy by as much as two years for some sub-projects compared to the traditional approach. This approach may allow ITSD to occupy the eastern Montana site in early-to-mid 2008, the Helena technical facility in mid-2008, and the office facility in early 2009.

We are presently exploring this approach further, including the experience of other government entities with similar projects.

Attachment C contains a representative project timeline for this approach.